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## Original Articles.

### DIGITALIS IN CARDIAC DISEASE.*


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IN seeking a topic on which to address you it seemed to me desirable to select one that concerned the majority of you and which might bring to you some suggestions that would be helpful in your usual routine of work. With this in mind, I suggested two topics to your committee, and they selected the one on digitalis therapy. I believe they made a good choice, for in my experience there are many misconceptions in regard to digitalis among practitioners, judged from their use of the drug on patients that subsequently have come under my care.

Certain more or less categorical statements may be made with advantage about digitalis, and some of these I will use to preface my remarks.

The dangers or toxic effects of digitalis are more serious as met with in medical books than in medical practice.

Some one of these toxic effects or so-called digitalis dangers really should be sought rather than avoided in digitalis therapy.

The real dangers in digitalis therapy are three:

(a) Using a poor digitalis preparation.

(b) Consciously or unconsciously prescribing too little of a potent digitalis preparation.

(c) Not knowing when digitalis should be started and stopped.

Digitalis usually is given in too small, *i.e.*, insufficient, dosage. I have yet to see the patient in whom too much digitalis had been given prior to my seeing the patient. I have given too much, *i.e.*, a harmful dose of digitalis, myself, to my knowledge just once, knowingly then taking a chance in a desperate case. The large majority of cardiac patients seen by me have had too little digitalis; a small percentage have had enough digitalis; none have had too much; some have had too little from the point of view of dosage when actually they should have had none.

Digitalis poisoning, of course, is possible, but it is one of the rarities of medicine.

Digitalis is good for the symptoms and physical signs the patient has, provided those symptoms and signs are the result of cardiac insufficiency, *i.e.*, decompensation.

The indications for starting digitalis therapy are the presence of symptoms and physical signs which are the result of cardiac inefficiency, *i.e.*, decompensation.

The symptoms and physical signs of cardiac insufficiency are breathlessness, cough, cyanosis, edema, pain, weakness, nausea, vomiting, enlargement of the liver, decreased urine output, rapid pulse.

*Read May 10, 1922, at meeting of Iowa Medical Society, held at Des Moines, Iowa.

The indications for stopping digitalis are improvement in these symptoms and signs or the occurrence of some of the toxic effects of digitalis.

The toxic effects of digitalis are nausea, vomiting, certain arrhythmias, as bigeminal pulse and heart block, rarely diarrhea.

There are a number of misconceptions about digitalis therapy now in vogue, some very generally. Some of these are:

(a) that a regular pulse indicates that a poor digitalis effect will be obtained;

(b) that striking digitalis effects are confined to patients with auricular fibrillation;

(c) that a slow pulse indicates that a poor digitalis effect will be obtained;

(d) that a fast pulse is an indication for the use of digitalis;

(e) that a murmur is an indication for the use of digitalis;

(f) that cardiac enlargement is an indication for digitalis;

(g) that aortic insufficiency is a contraindication for digitalis;

(h) that myocardial degeneration is a contraindication for digitalis;

(i) that high blood pressure is a contraindication for digitalis;

(j) that arteriosclerosis is a contraindication for digitalis;

(k) that angina pectoris is a contraindication for digitalis;

(l) that nausea and vomiting are due to some undesirable constituents in the digitalis preparation that may be removed by pharmaceutical art.

Other misconceptions might be enumerated, but sufficient have been given to occupy us at present.

Now let us elaborate somewhat on those of the above statements that do not seem clear or for which further evidence appears to be desirable. As to the toxic effects and dangers of digitalis little need be added to what I have already said. The striking fact is that serious toxic effects and real harm from digitalis therapy are almost never seen. Very often symptoms regarded as the result of digitalis are really due to failure to give enough digitalis to control cardiac symptoms. So often digitalis is stopped or some other cardiac drug is used because of nausea, when it is more digitalis, not less, that is needed to abate the nausea.

It needs to be recognized that very often the digitalis which the patient purchases has but slight potency. A serious error is to regard a drop as a minim and to prescribe 15 drops of tincture of digitalis, thinking to give 15 minims; the patient taking 15 drops often gets but five minims, rarely more than seven—both very small doses. This error accounts for

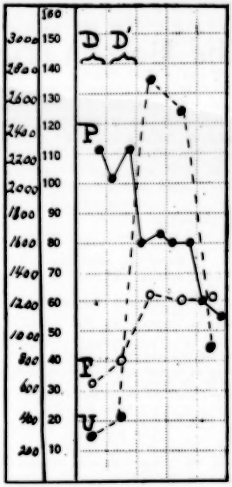


CHART I.—Male, age 28, chronic cardiac valvular disease, mitral stenosis; rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. D=2 doses of 0.3 gm. each of powdered digitalis leaves every 6 hours, a total of 0.6 gm. on this day. D'=7 doses of 0.3 gm. each of powdered digitalis leaves every 6 hours, a total of 2.1 gm. on this day. Total D+D'=2.7 gm. of powdered digitalis leaves. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. The effect of digitalis in this case was a slowed pulse (110-55) and on two days a marked diuresis, with urine increase from 400 to 2700 and 2500 c.c.

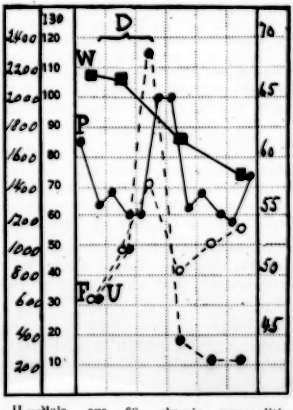


CHART II.—Male, age 60, chronic myocarditis, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D=8 doses of 0.2 gm. each of powdered digitalis leaves every 6 hours, a total of 1.6 gm. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. W=weight of the patient in kilograms. The effect of digitalis in this case was a moderately slowed pulse rate (85 to 60), a diuresis with urine increase from 625 to 975 and 2300 c.c., and a decrease in body weight of 7.8 kilos, or 17.2 pounds.

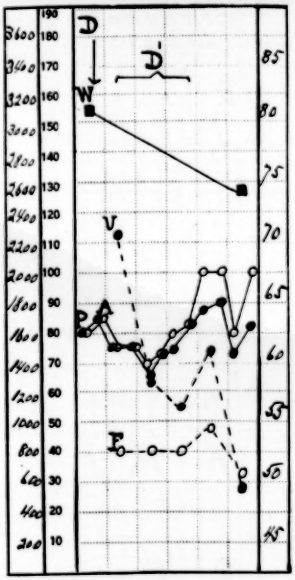

CHART III.—Female, age 45, chronic myocarditis, auricular fibrillation. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D=0.5 gm. of powdered digitalis leaves given at 3:35 p.m. $D^1$=9 doses of 0.2 gm. each of powdered digitalis leaves, given four times a day, a total of 1.8 gm. Total $D+D^1$=2.3 gm. of powdered digitalis leaves. A=heart rate counted with a stethoscope over the apex region. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. W=weight of the patient in kilograms. The effect of digitalis in this case was a diuresis with urine output of 2250 c.c. and a decrease in body weight of 7 kilos, or 15.4 pounds.

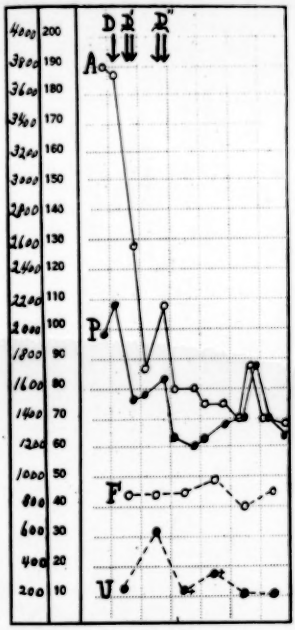

CHART IV.—Female, age 28, chronic cardiac valvular disease, mitral stenosis and regurgitation, aortic regurgitation; auricular fibrillation. The first column of figures on the left-hand side of the chart indicates the amount of urine output and fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. D=1 c.c. tincture of digitalis given intravenously at 10:12 a. m. $D^1$=2 doses of 0.5 gm. of powdered digitalis leaves at 1:52 and 8 p. m., a total of 1 gm. $D^2$=2 doses of 0.1 gm. of powdered digitalis leaves given at 6 and 10 p. m., a total of 0.2 gm. Total $D+D^1+D^2$= 1 c.c. of tincture intravenously and 1.2 gm. of powdered leaves by mouth. A=heart rate counted with a stethoscope over the apex region. P=pulse rate counted at wrist. F=fluid intake measured in c.c. U=urine measured in c.c. The effect of digitalis in this case was a slowed apex rate (190 to 70), with disappearance of pulse deficit.

much unconscious prescribing of too small a dose. The rest comes from the digitalis being of low potence. I would urge on you the abandoning entirely of directing your patients to take any number of drops of digitalis tincture; most desirable doses contain too many drops to ask your patient to use such a crude method of measurement.

All too often digitalis is given on the part of the physician when the indications for its use are not evident. There should be definite evidences of cardiac insufficiency before digitalis is given. Increased heart rate alone is never the result of cardiac insufficiency and never the indication for digitalis therapy. This may seem a strong statement, but following it will, I am sure, improve your digitalis therapy and save you from giving it when it will do no good and may do harm. Paroxysmal tachycardia does not respond to digitalis and digitalis does not affect simple tachycardia. In infectious diseases a rapid regular pulse, in my opinion, is not an indication for digitalis, and its use will do your patient no good. I see no advantage in the routine use of digitalis in pneumonia, a quite usual procedure. In the pneumonia doing badly with a rapid, weak pulse, I have never seen digitalis help and I have stopped using it in such cases. If auricular fibrillation develops or cardiac decompensation is present, digitalis is very useful. It then behooves practitioners to recognize clearly what are the symptoms and signs of cardiac decompensation, and these I have already enumerated. Here I should add that no murmur of whatsoever sort, nor enlargement of the heart, in itself is an indication for digitalis therapy. If symptoms and signs of cardiac insufficiency are present, give digitalis until they improve, or until some of the toxic effects of digitalis appear. The remarkable thing is that but extremely few cardiac cases fail to show some improvement

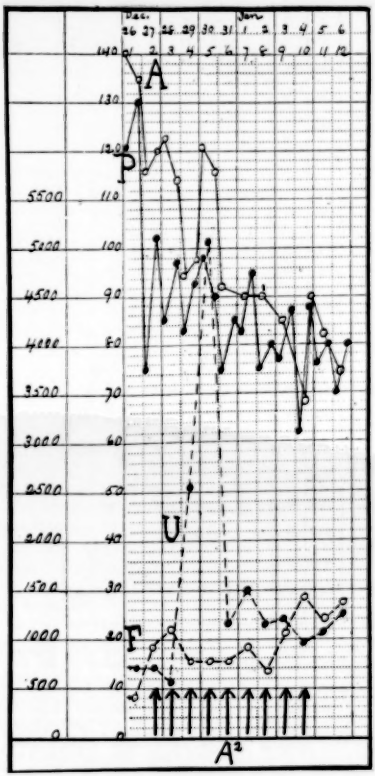


CHART V.—Male, age 57, chronic myocarditis, auricular fibrillation. The first column of figures on the left-hand side of the chart indicates the amount of urine output and fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and pulse rates per minute. The arrows of $A^2$ indicate days on which the patient received three doses of 0.1 gm. each of powdered digitalis leaves. A=heart rate counted with a stethoscope over the apex region. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. The effect of digitalis in this case was a marked slowing of the heart rate from 140 to 74 and a diuresis with urine increase from 550 to 2325 and 5550 c.c. per 24 hours.

in some of the evidences of cardiac decompensation when adequate dosage of digitalis is used. In 97 consecutive adult cases of my own 81 showed definite symptoms or signs of cardiac decompensation; 90 per cent. of these showed definite improvement in cardiac condition following digitalis therapy. The nine failures resulted from close approach of death in six, aortic aneurysm in one, chronic nephritis that prevented diuresis in one, and there was no apparent reason in one.

That a regular pulse indicates that a poor digitalis effect will be obtained is not borne out by the chart of the following case. (Chart I.)

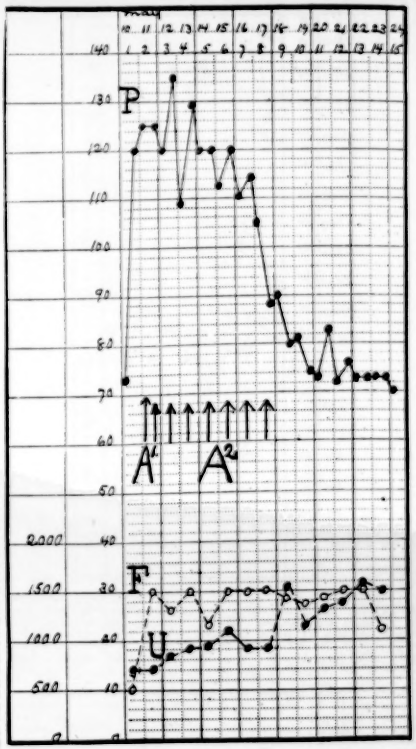


CHART VI. — Male, age 35, chronic myocarditis, regular rhythm. The first column of figures on the left-hand side of the chart indicates the amount of urine output and fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and pulse rates per minute. Arrow over $A^1$ indicates intramuscular dose of 1 c.c. of digipuratum. Arrows over $A^2$ indicate days on which the patient received three doses of 0.1 gm. each of powdered digitalis leaves. P=pulse rate counted at the wrist. F= fluid intake measured in c.c. U=urine measured in c.c. The effect of digitalis in this case was a marked slowing of the pulse from 135 to 72.

This patient was a male of 28 years of age, with mitral stenosis and regular rhythm. Digitalis produced a slowing of the pulse from 110 to 55, and on two days there was a marked diuresis, with urine increasing from 400 to 2700 and 2500 c.c. per 24 hours. Such good digitalis effects were obtained in 72.5 per cent. of a series of patients with a regular rhythm studied by me.

That striking digitalis effects are confined to patients with auricular fibrillation is not borne out by my experience, for in 97 consecutive adult cases, of which 40 had regular rates and 57 fibrillated, definite digitalis effects were obtained irrespective of regular rhythm or fibrillation, the percentage being 72.5 per cent. for

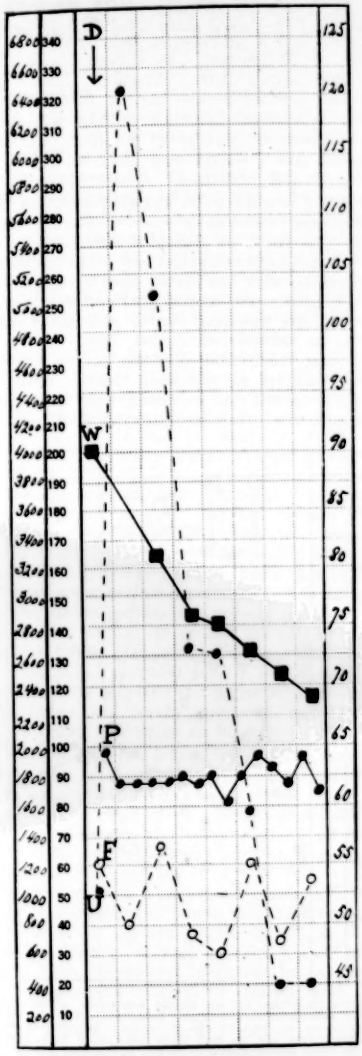


CHART VII.—Male, age 45, chronic myocarditis, hypertension, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. Dea single dose of 2.3 gm. of powdered digitalis leaves given at 10:30 a. m. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. W=weight of the patient in kilograms. The effect of digitalis in this case was to produce a very marked diuresis with increase of urine from 1000 to 6425, 5050, 2625 and 2600 c.c., and a decrease in body weight of 21.4 kilos, or 47 pounds.

regular rhythm and 75.4 per cent. for auricular fibrillation.

As to a slow pulse indicating a poor digitalis effect, the charts of the following cases show that this does not hold true. The first patient was a male, age 60, with chronic myocarditis and regular rhythm. In this patient the effect of digitalis (Chart II) was a very moderate slowing of the pulse rate from 85 to 60, an increase in urine output from 625 to 975 and 2300 c.c. per 24 hours, and a decrease in body weight of 7.8 kilos, or 17.2 pounds. The second patient was a female, age 45, with chronic myocarditis and auricular fibrillation. The effect of the digitalis in this case (Chart III) was a diuresis, increasing the urine to 2250 c.c. in 24 hours, and a decrease in body weight of 7 kilos, or 15.4 pounds.

As to aortic insufficiency being a contraindication for digitalis, it is generally held now that digitalis does not at all increase the probability of the heart stopping in diastole on the theory that digitalis prolongs diastole in its slowing effect on the heart and so increases the regurgitation of blood back from the aorta, leading to overdistention of the left ventricle. Perhaps excellent digitalis effects are not obtained as regularly with aortic insufficiency as with other valve lesions, but often they are extremely satisfactory, as shown by the chart of the following case. This patient was a female, age 28, with aortic regurgitation and mitral stenosis and regurgitation. She had auricular fibrillation. The effect of digitalis (Chart IV) was to slow the apex rate from 190 to 70 and cause a disappearance of the pulse deficit.

The statement that myocardial degeneration is a contraindication for digitalis is not in harmony with the striking effects obtained in auricular fibrillation, which is an indication of myocardial disease. Nor is it in accord with the splendid results of digitalis obtained in chronic myocarditis, as already illustrated by Charts III and IV. Chart V, of a middle-aged man with chronic myocarditis and auricular fibrillation, shows particularly well a digitalis effect with slowing of the apex rate from 140 to 74 and a diuresis from 700 to 2550 and 5100 c.c. per 24 hours. Even with pulsus alternans, one of the best indications we have of severe myocardial disease, splendid results may follow digitalis, as shown in the following case. Here, in a man of middle age with chronic myocarditis, the electrocardiograms showed a regular cardiac rhythm, but tracings from the brachial artery indicated a marked degree of pulsus alternans. Digitalis under these conditions, however, produced (Chart VI) a marked slowing of the pulse from an average of 125 to 72. In just the same way, hypertension, arteriosclerosis and angina pec-

toris are not contraindications for digitalis. With all of these excellent digitalis effects are obtained. The following cases may serve to illustrate this. In the first patient of this group there was a chronic myocarditis with hypertension and a regular cardiac rhythm, in a male, age 45. Digitalis here produced (Chart VII) a very marked diuresis, increasing the urine from 1000 c.c. to 6425, 5050, 2625 and 2600 c.c. per 24 hours, and decreased the body weight by 21.4 kilos, or 47 pounds. In a second case there was hypertension and chronic myocarditis in a woman of 43 who had a regular cardiac rhythm. Here the effect of digitalis was (Chart VIII) a slight, prolonged diuresis and a decrease in body weight of 15 kilos, or 33 pounds. In a man of 59, with chronic myocarditis, auricular fibrillation, marked arteriosclerosis and a former right-sided hemiplegia, digitalis produced (Chart IX) a delayed decrease in the apex rate from diuresis and a decrease in body weight of 19 kilos, or 41.8 pounds.

Finally a word as to the misconception that nausea and vomiting are due to some undesirable constituent of digitalis that may be removed by pharmaceutical art. Hatcher's experimental work has shown clearly that nausea and vomiting are central toxic effects of digitalis on the vomiting centre and not a local action on the gastric mucosa. My own experience has been that digitalis in its simplest form, namely, as powdered leaves, does not produce nausea and vomiting until other definite digitalis effects are manifest, and that it

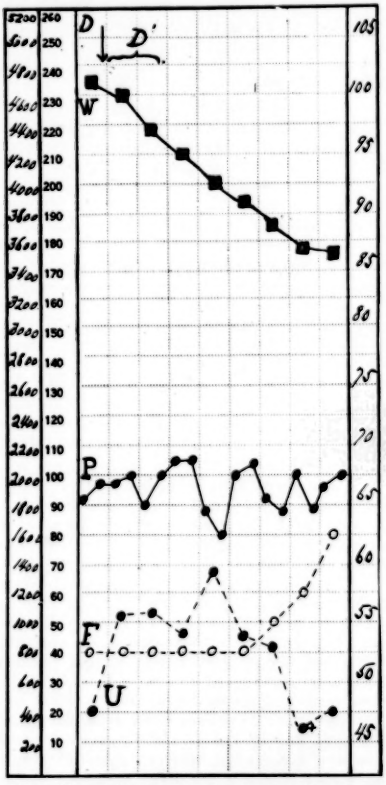


CHART VIII.—Female, age 43, chronic myocarditis, hypertension, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in cc. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D=a single dose of 1.2 gm. of powdered digitalis leaves given at 9:30 p. m. $D^5$=5 doses of 0.2 gm. each of powdered digitalis leaves every 6 hours, started at 3:30 a.m., a total of 1 gm. Total $D+D^5$= 2.2 gm. of powdered digitalis leaves. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U= urine measured in c.c. W=weight of the patient in kilograms. The effect of digitalis in this case was a slight prolonged diuresis and a decrease in body weight of 15 kilos, or 33 pounds.

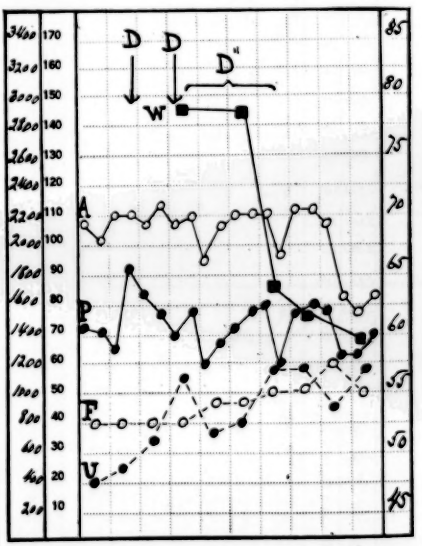


CHART IX.—Male, age 59, chronic myocarditis, auricular fibrillation, arteriosclerosis, old right hemiplegia. The first column of figures on the left-hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D=a single dose of 1.8 gm. of powdered digitalis leaves. $D^5$=0.2 gm. of powdered digitalis leaves. $D^{15}$=15 doses of 0.1 gm. each of powdered digitalis leaves every 6 hours, a total of 1.5 gm. Total $D+D^{15}+D^5$=3.5 gm. of powdered digitalis leaves. A=heart rate counted with a stethoscope over the apex region. P=pulse rate counted at the wrist. F=fluid intake measured in c.c. U=urine measured in c.c. W=weight of the patient in kilograms. The effect of digitalis in this case was a delayed decrease in apex rate (110 to 78), with a moderate decrease in pulse deficit, a delayed but prolonged moderate diuresis, and a decrease in body weight of 19 kilos, or 41.8 pounds.

may be used advantageously in almost every cardiac patient, even when nauseated and vomiting. I have often tried preparations supposed to have been freed of their objectionable gastric action. The result uniformly is that either they produce nausea and vomiting just as promptly as the simple powdered digitalis, or if they do not, it is because they are not potent preparations, *i.e.*, they do not give satisfactory digitalis effects. My own experience is that digitalis lutea, claimed to have less toxic effects than digitalis purpurea, produces the same nausea when the two are used in corresponding dosage. I doubt whether it is very likely that a digitalis preparation will ever be produced which will give satisfactorily digitalis effects and not cause nausea. I even question whether such a preparation is really desirable. Nausea is, after all, a very useful, easily recognizable effect of sufficient digitalis, and so serves a very useful purpose in digitalis therapy. If one is carefully watching his patients, in many instances full therapeutic effects of digitalis may be obtained without causing nausea, and if nausea does result it need not be severe. Marked nausea and vomiting occur in reverse ratio to the care that is being given to the observation of one's patients. Anyhow, I firmly believe that so far no pharmaceutical art has succeeded in removing the nausea-producing portion of digitalis and leaving behind its needed therapeutic portions. After a fair trial of the various available digitalis preparations, I feel convinced that none are superior to digitalis in its simplest form: the leaves powdered and mixed with a sticky vehicle so as to make a pill.

Digitalis may be given in a single massive dose, or in a modified massive dose method, or in regularly repeated small doses. Any of these methods is effective. The chief difference lies in the length of time needed to produce a result. For the average cardiac case there is no real preference. In a few very severe cases the modified massive dose method is better. Occasionally the single massive dose may be life-saving. When all is done and said, digitalis therapy is very simple. Just give enough of a potent leaf, prepared in any way, by any accepted method of dosage, and the result is most satisfactory in almost every case. So far I have never seen a patient to whom digitalis could not be given when it was indicated by symptoms and physical signs without doing the patient harm, and almost always with excellent results. I know of no cardiac case in which it is necessary to substitute any other drug for digitalis, and I consider powdered leaves of digitalis in pill form a thoroughly satisfactory preparation. In seven years' use at the Peter Bent Brigham Hospital I have seen digitalis leaves of different strengths, but so far we have never purchased a leaf that was unsatisfactory in its results, and except for periods of testing some particular preparation, we have consistently adhered to using powdered leaves in pill form because the results were thoroughly satisfactory. We have found that using a new sample of leaves on a group of patients was an eminently satisfactory way of finding out the potency of the leaf and the most effective dosage. Standardizing on animals is helpful but by no means essential. For much of the time we have not standardized our leaves on animals and still our results are satisfactory. I am saying this not to decry animal standardization, but merely to show that it is not essential to good digitalis therapy in the hands of one with as much as several cardiac cases constantly on hand for treatment.

## QUACKERY, MIRACLE HEALING AND MEDICAL CULTS.*

BY ROBERT W. LOVETT, M.D., BOSTON.

IF one goes backward in the history of civilization, one finds wherever and whenever one looks into it, three persistent parasites clinging to each successive stage of civilization. These are drunkenness, prostitution, and quackery. The State legislates against them; the Church fulminates against them; the better part of the community from time to time rises and decides to exterminate them; but in the Vedas of India, the classics of Greece and Rome, the early records of Egypt and Arabia, and the writings of the Middle Ages, you will find that parasite with which we are for the moment concerned — quackery — described, deplored, and condemned in terms almost of today.

To maintain such vigor, such persistence and such superiority over all the efforts of Church, State and Society to overcome it, quackery must have deep roots in human nature, and it is of interest to inquire what these roots are.

*Causes of Quackery.*—The first of these lies in human gullibility. It has never been better expressed than by Butler in the following lines from Hudibras:

> "The world is generally averse
> To all the truths it sees and hears;
> But swallows nonsense, and a lie,
> With greediness and gluttony."

Our own Barnum phrased it more graphically, if less elegantly, in his statement that "the public loves to be humbugged."

Our special community, however, is well-educated and advanced and should presumably not be the prey of every chance faker. It should

*Read before the Harvard Medical Society, April 11, 1922.

not be; but what shall be said of the gullibility of a community, which not so long ago financed so very handsomely the enterprise of Ponzi, and similar preceding enterprises like Mrs. Howe's bank? The local soil for such enterprises is evidently a fertile one and the community not so enlightened as one might wish.

Further reasons for the persistence of quackery are found in the existence of one of the classes in the community described by Abraham Lincoln in his classical dictum: "You can fool all the people part of the time, and part of the people all the time, but you can't fool all the people all the time." The part of the people that can be fooled all the time includes several groups, each of which is fertile soil for the quack: (1) the very ignorant; (2) a peculiar class which seeks the mystical, the occult, and the irregular; (3) an unreasonable class, which espouses an unpopular cause, simply because it is unpopular, without any investigation of its merits, and which finds in the occult mysticism of India a satisfaction which does not come from the contemplation of facts as they are. One might describe them as a submerged class,—submerged in the matter of reason and common sense.

The proportion of the gullible class in any community varies, but the estimate of a celebrated quack may be of interest. "He was visited by a former playfellow from his native village, who asked how he had got on so well, adding with the frankness of early friendship, 'Thee knowst thee never had no more brains than a pumpkin.' The quack took him to the window and bade him count the passersby. When a hundred had passed the quack asked his visitor: 'How many wise men do you suppose were amongst this hundred?' 'Mayhap one,' was the reply. 'Well,' returned the quack, 'all the rest are mine.' "[1]

A cause which must not be forgotten lies in the earliest development of medicine. The early conception of disease was that it was due to an evil spirit which had entered the body of the sick man and to drive out this evil spirit were used incantations, exorcism, magic, charms, amulets, etc. Traces of this affiliation between medicine and magic persist today, perhaps not altogether unnaturally when one looks back on the thousands of years during which they were affiliated, and the comparatively few centuries in which they have been separated.

On February 6, 1921, in the Municipal Court, of Boston, there was sentenced to a year in prison a Professor L. P., styling himself the 7th son of the 7th son, and holding himself out as a clairvoyant and palmist. He had a birth mark on his breast, which he exhibited, and said was his instrument of cure, which never failed if his patients followed his instructions closely. He promised to cure a young man, crippled with rheumatism; another son, who was also crippled, and the mother, who suffered from the same affection.[2]

The family had to sign a contract that they would not eat anything which contained vinegar, and a medicine was left which consisted of cigarette water. The first patient was to rub this on his knees once a day for 4 days, and on the 4th day would be cured. It was added, however, that perhaps for a few days more there would be a slight stiffness in his legs—the result of having been confined to a wheel-chair for many years. The brother was to rub the backs of his ears with the medicine for 3 or 4 days; and the mother was to rub the same medicine on the soles of her feet, also for 4 days. A cash fee of $22.81 was received, but the professor failed to make a favorable impression on the family, and they did not use the medicine, but instead had him arrested.

The point of the story is that this incident of the presence of the witch doctor in our midst, occurred in Boston in the current year, and the evidence brought out in court showed that this man had been arrested for the same sort of thing before in Worcester and in Maine, and was wanted in Salem for a similar offence.

In the history of the past there is no more amusing group of rogues than the famous quacks of the ages. Facile, specious, without conscience, and with unlimited daring, they come down through the years, not depressed by adversity and always ready to trade on human gullibility.

*Comparison of Different Ages of Quackery.*—A question whether or not quackery is as generally prevalent today as it was in the past is of interest. Unfortunately there are no figures at hand from which to make accurate deductions; but one thing is certain—quackery today is decidedly less picturesque. A curious point of comparison is found in two Temples of Health: One flourishing in London, just before the French Revolution, and the other presided over in Kansas City by a man named Carson about 1910.

The original Temple of Health,[3] in England, was established by one of the most impudent quacks who ever lived, James Graham by name, who at one time honored Philadelphia by his presence, practising as an itinerant oculist and aurist, but who returned to London and established himself there. His Temple of Health was situated in Pall Mall, with a richly ornamented facade. Two guards, in flowing robes with cuirasses of metal over them, stood at the entrance and collected from each visitor a fee of 6 guineas. When one entered the building, harmonious strains of music from hidden musicians attracted the ear, while subtle perfumes entranced the sense of smell. The visitor progressed to a magnificent hall, where garlands,

mirrors, crystal, gilt and silver, were scattered about with profusion to dazzle the eye.

When the audience was seated Graham entered in gorgeous doctor's robes, and delivered a lecture, at the close of which each auditor received an electric shock through an apparatus concealed in the cushion of his seat. When this penetrating intimation that the exercise was ended was received, the audience naturally rose spontaneously and departed without delay.

The modern Temple of Health in Kansas City seems to have been a more modest establishment and was described in the *Journal of the American Medical Association*.[4] The proprietor, Carson, must have heard of the other Temple of Health, because he also provided entertainment; but the entertainment was of a different character, and the one which made the most trouble was an address by the Congregational minister of the town, who was subsequently somewhat criticized for lending his aid to this enterprise. Carson treated his patients by means of "vital force," rubbing them with vaseline mixed with red pepper—the latter producing the tingling due to the transmission of the "vital force." "Later he improved on this 'treatment' and had his assistants give out slips of tissue paper which he had 'magnetized.' These slips the patients were instructed to pin on their nightgowns between the shoulder-blades.'" Carson was exposed in the *Journal of the American Medical Association*, and in the *Independent*, and the State Board of Health of Missouri eventually prosecuted him for practising medicine without a license.

*Types of Quackery.*—Taking quackery and irregular practice from the time of Hippocrates (460 B.C.), the Vedas of India (600 B.C.), or the time of Galen, the stream flows down through the centuries in five main channels, and in analyzing these it will be interesting to see how little is new in modern cults. These channels are as follows:

1. Nostrums and Proprietary Medicines.
2. Miracle Healing.
3. Mental Healing.
4. Methods of Manipulation.
5. The Amateur Quack.

1. *Nostrums and Proprietary Medicine.*—These are sold in part with criminal intent and in part, probably, by stupid people, who believe in the efficacy of their concoctions. There is, however, no question of the intentions of the man who sold a morphine cure, containing morphia, or an inert cancer cure, or a disguised cocktail to innocent persons who were appreciative of the subsequent comfortable feeling, now described as "the kick," but ignorant whence it came. But thanks to *Collier's Weekly*, the *Ladies' Home Journal*, and the *Journal of the American Medical Association*, this business has been thoroughly exposed; restrictive laws have been passed; extravagant claims can no longer be made on labels, and the United States mails are closed to such people on proper evidence. The account of the methods of these people and the crusade against them is to be found in a small book, called "The Great American Fraud," by Samuel Hopkins Adams, in a series of publications bound by the American Medical Association, and in weekly analyses of patent medicines and nostrums in the *Journal of the American Medical Association*. This wicked and cruel fake has been greatly damaged and the subject will not be dwelt on here to any extent.

The antiquity of this branch of quackery is doubted. So long as medicine consisted of charms, amulets, and incantations, not much could be done in the way of faking imitations; but when remedies became established, so did nostrums.

In this connection the most astonishing story in the whole history of quackery is the achievement of Joanna Stephens, a famous quack practising in London in the middle of the 18th century, whose remedies were supposed to have solvent action on stone and gravel in the bladder and kidney. "Not all the testimonies of Christian Science, Dowieism, the Emmanuel Society, and Lourdes, put together can show anything like such a list."[5] Being a generous-minded woman, Mrs. Stephens had proposed to make her medicine public on consideration that the sum of 5000 pounds should be raised by subscription and lodged with a banker. The advantage of making public this wonderful remedy was taken up by the press, which urged that no humane or patriotic person could do otherwise than subscribe to the fund. In the list of subscribers are the names of bishops, dukes and duchesses, earls and baronets; but the subscription reached only 1336 pounds. Mrs. S., however, stood out for the original price, and application was then made to Parliament for that sum; and after a commission had seriously inquired into the cures, it was voted that the sum be granted. It is melancholy to read that in the list of those who signed the certificate, which was required by Parliament, were the names of such well-known medical men as Cheseldon, Caesar Hawkins, Samuel Sharp, and David Hartley. Mr. Hartley published some cases and experiments, which seemed to him to show sufficient evidence of the dissolving power of the remedy, in the urine of such persons as took Mrs. S.'s medicine. He concludes his statement in what seems to us today a rather illogical manner: "I, therefore, persuade myself that Mrs. S. will appear to you in a different light from common pretenders to nostrums and that you will not think the measures that have been taken for the pub-

lication of her medicine any encouragement to imposters."

When the grant of 5000 pounds, which in those days was a very considerable sum, had been made the secret was revealed. The remedy consisted of a powder, composed of egg shells and snails, calcined by heat, and a decoction made by boiling some herb along with soap, honey, swine cresses and a mixture of seeds of carrot, burdock and ash. With the knowledge of the remedy, interest in it ceased; but Mrs. Stephens had the money and Hartley died of the disease which the remedy was said to cure.[6]

2. *Miracle Healing.*—The subject of miracle healing is of established antiquity, but whether one view it from the point of view of the past or of today, it is too closely allied with religion to be discussed without the danger of giving offense.

It is to be divided into three main divisions: (a) miracles in response to prayer; (b) miracles claimed by Christian Science, such as the cure of cancer; and (c) miracles by the laying on of hands, with or without prayer. The first named is perhaps best seen in the miracle churches of Lourdes and St. Anne de Beaupré.[7]

In the work of Hickson, who was in Boston in 1919, and whose services were attended by great throngs of people, one finds the type of religious healer who works without financial reward. There is, however, from the medical point of view, danger in too wide a publicity of such statements as the following, credited to Hickson: "God can heal cancer as well as he can heal a headache; many so-called organic diseases have been healed through prayer. I say this out of experience."[8]

But along with the really religious healer, who uses the laying on of the hands, goes the unscrupulous quack, who also lays on the hands for pecuniary reward alone, without claim of special divine power.

A man of this sort visited Boston some years ago and gave public exhibitions in a large hall. I was one of the audience, and I have also attended the exhibitions of a man named Schlatter, given in a theatre. The former laid on hands, rubbed the patient's ears, told him he was better, or cured, and to get up and walk. Many of the people treated were obviously not confederates, and I saw instances of deafness apparently cured, lameness from rheumatism greatly improved, and cases where the sufferer said pain had wholly gone. The majority of patients, and all who were helped, were told that further treatment was necessary, for which they must report at a certain hotel the following day, and would be expected to make proper remuneration.

The daily press contains frequent communications upon miraculous cures, particularly of cancer.

According to one's mental make-up he either believes, or does not believe, in healing by miracle.

3. *Mental Healing.*—In this matter, also, too free discussion is likely to bring one into contact with religious belief and the subject can be dealt with only superficially. It may be divided into three main groups: Christian Science; The Emmanuel Movement; and Mesmerism.

A cure by mental healing implies an action of mind on body, not necessarily a direct miracle with the reversal of Nature's laws, but a healing by the natural mechanism of the body. This is best exemplified in Christian Science, which also figured in the last section; and those interested will find ample literature at their disposal.

The Emmanuel Movement was based on the assumption that medical men did not sufficiently use the spiritual and mental aspect of therapeutics in their treatment of the sick, and that this could be supplied from the outside, preferably by the Church. The enterprise has been free from any mercenary taint and has endeavored to work with the physicians. There is plenty of literature concerning it for those interested. One quotation may be given.—"Chronic ailments of every sort yield as if by magic to the benign influence of suggestion;—headache, toothache, neuralgia, rheumatism, insomnia, epilepsy, hysteria, neurasthenia, alcoholism, morphine, tobacco, stammering, sciatica, St. Vitus' dance, nervous dyspepsia, constipation, goitre, tumors, paralysis, etc. In this, and a hundred other ills, the law of suggestion understood by some friend, minister, or physician, can bring the blessing of health to thousands of pain-racked sufferers."[9]

In the light of this remarkable power, it is rather difficult to understand why one should give up after the first attempt, yet the following quotation shows us that such has at times been the case. "I will say frankly that I have not attempted the cure of locomotor ataxia, after my first case, which was not a cure, although I was able to cure him of his perverted moral troubles . . . . . I have not had universal success in treating the morphine habit."[10]

*Healing by Hypnotic Suggestion and Mesmerism.*—This measure, a legitimate and useful one in the hands of the qualified physician, suggests glorious, golden possibilities, in the hands of quacks, which have been largely and harmfully exploited. This cult is credited to Mesmer, for whom it is named. He summed it up as follows: "There is only one malady in all the world and I have the remedy for that at the end of my finger." Mesmer staged his private practice very alluringly and appeared

in a purple robe, embroidered with brilliant flowers, a color scheme which was characteristic of his daring in other matters. Holding the patient in his arms, while sweet or stimulating music was played, he gazed into her eyes and expressed his eagerness to cure. Hysteria, spasms, or hypnotic calm resulted, after which the patient was completely cured of all her ills. Naturally, only the rich were able to avail themselves of this wonderful opportunity, but Mesmer loved his fellow men like Abou Ben Adhem, and grieved that they should be shut out from the benefits of his wonderful powers; so he magnetized a tree on the Boulevard, and by standing under this penurious invalids could receive the benefits of health without expense.

4. *Methods of Manipulation.* — Bone-setting, osteopathy, and chiropractic.

All other forms of irregular healing have at the present time largely given place to those by methods of manipulation. Of the three manipulative sisters, bone-setting, osteopathy, and chiropractic, bone-setting, as the oldest of the three, deserves first consideration.

*Bone-setting.* — Reference to manipulative treatment, akin to bone-setting, is found as early as the days of Homer, and it is probable that its origin is even earlier than this, although actual record of it seems to be lacking. "Among the other camp followers of medicine were the gymnasts or Iatraleiptes, who, besides exercises, practised inunction of the body. They were also, it would appear, bone-setters, and were naturally led to give first aid in all accidents and in many diseases, and to advise as to diet and regimen."[11]

Howard Marsh[12] gives us the following clue to the origin of bone-setting: "Chirurgery, or hand-working, began in attempts to pull in displaced bones, to straighten distorted joints, and to restore movement to stiff limbs. In this dawn of the art nothing was known of anatomy or pathology; it was only seen that a limb was bent or stiff, and force was employed to overcome the defect, just as it might be used to straighten a crooked bar, or loosen a rusty lock."

In 1599 we find reference to bone-setting in Madrid,[13] and a book entitled, "The Complete Bone-setter,"[14] published in England in 1665, is suggestive that bone-setting was flourishing in that century. From that time on, the art has been much in vogue, especially in England. It has never existed as a science, but the art has in general been secretly handed down from father to son, and bone-setting families are known in America to this day, and a well-known bone-setter, Daniel Putnam, was established in Connecticut in 1670.

That a system of manipulation persists for something over 2,000 years is suggestive that it probably possesses some therapeutic value, and although we might marvel at the pretensions and notoriety achieved by the celebrated bone-setter, Mrs. Mapp, in the middle of the 18th century, we will find that Mr. Barker, of Park Lane, London, does not today fall so far behind her.

Mrs. Mapp was the daughter of a famous bone-setter, and the sister of the celebrated Polly Peachum, who married the Duke of Bolton. She was popularly known as "crazy Sally," and was a strolling performer until Epsom offered her 100 guineas to continue there for a year, so great was her success. She married at Epsom, but unhappily, because Mr. Mapp was evidently temperamental and, after thrashing her several times, he went away with a large part of her earnings. She was much in the public press, and her cures were said to be too many to be enumerated. Her bandages were neat, and her skill in reducing dislocations and in setting fractures was said to be wonderful. If it was known that she was going to the theatre, that was sufficient to fill the house. Her own estimate of herself is shown by an interesting incident: When passing through Kent street, she was taken for one of the King's German mistresses, who was unpopular. A mob gathered and used threatening languages. Mrs. Mapp, thereupon, put her head out of the window and cried: "Damn your bloods, don't you know me? I am Mrs. Mapp, the bone-setter," and drove away amid the applause of the multitude.[15]

Mr. Percival Pott, the celebrated surgeon, who was her contemporary, spoke of her claims as "the most extravagant assertions of an ignorant, illiberal, drunken female savage."[16]

At the present time in London there is a bone-setter, Mr. Barker, nearly as well-known as Mrs. Mapp was, and about whose head has raged a storm of controversy. He is the legitimate successor of the great bone-setter Hutton, having served apprenticeship under Atkinson, who was Hutton's pupil. He claimed at his trial, in 1911, that he had at that time treated 30,000 cases, with 90 per cent. of success, most of whom had previously consulted, ineffectually, well-known practitioners. The trial alluded to above was the result of a suit for negligence against Mr. Barker, brought by a patient for manipulating a tuberculous knee twice, a proceeding which was followed by amputation. So far as one can judge from the newspaper reports, Barker made none too good a showing at the trial, but inasmuch as the jury awarded a verdict of only $120, his offence was evidently regarded as not being a very serious one.

The *Times*[17] has proclaimed him with his anesthetist, Axham, as "benefactors of the public," and during the war a petition was addressed to the Archbishop of Canterbury, praying him to confer the Lambeth degree of M.D.

upon Mr. Barker. The petition was not successful.[18] In the petition it was stated that he was probably doing more to relieve suffering humanity than any living surgeon. The Primate's refusal to grant the petition was prefaced by the hope that "some means may be found of marking the country's appreciation of what I can but call Mr. Barker's eminent services to sufferers."[19]

His patients have included members of both houses of Parliament, and their families; the Episcopal Bench; the Cabinet; the Navy; the Army; members of both Universities; prominent sportsmen; barristers; soldiers; and frequently registered practitioners themselves. They come from the United Kingdom, India, Australia, New Zealand, Africa, Canada, and the United States.

The standing of Mr. Barker is curious, for on the one hand a proposal to knight him has been made, and on the other hand his anesthetist, Axham, has been disqualified from practice because he etherized for an irregular practitioner. The case has been argued in Parliament and the bitterest views, on both sides, have been expressed.

Mr. Barker has offered to explain his methods to a properly constituted committee of medical men, but Mr. Barker is irregular and, therefore, cannot be dealt with by the English profession. Yet Mr. Barker has not become regularized. Without casting aspersions upon his reasons for wishing to remain irregular, the following story, which appeared in the French papers[20] a few years ago, may be of interest. A quack, at a fair near Paris, was selling nostrums, drawing teeth and attracting an enormous crowd, who parted readily with their money. The offence against the French law was so flagrant that he was arrested and taken to a tent, where he was requested to show his diploma. To the surprise of his captors he produced a perfectly authentic degree of Doctor of Medicine from the University of Paris. The police, thereupon, began to apologize, but he cut them short and begged them to say nothing of what they had seen. "For," he said, "if the people know that I am a qualified doctor I shall have no more customers."

The *English Review* sums up the Barker situation as follows: "The Faculty cannot, and Barker shall not;" but Sir Arbuthnot Lane, in the course of a series of clinical lectures, put it more correctly when he said: "The bone-setter flourishes because the surgeon is deficient in a certain knowledge."

Fortunately we have a scientific analysis of bone-setting by Dr. Wharton Hood of England, M.R.C.S., published 50 years ago.[21] Hood had an unusual opportunity to study bone-setting. It came about in this way: His father, Dr. Peter Hood, attended Mr. Hutton, the famous bone-setter, through a long illness and refused to take a fee after Mr. Hutton's recovery. The latter, out of gratitude, offered to explain all the details of his practice and art. The senior Mr. Hood was unable to avail himself of the opportunity, and the invitation was then extended to his son, who attended Mr. Hutton's office hours and was taught by him. Later, during another illness of Mr. Hutton, Hood took charge of his charity patients, and upon Mr. Hutton's death he published an analysis of the method.

Mr. Hutton came of a family of bone-setters, but was an upholsterer during his earlier years. Referring to him, Howard Marsh,[22] who was no friend of bone-setters, described him as *"facile princeps"* and "probably as good a bone-setter as ever lived." . . . "He treated anatomy with contempt; he neither knew nor wanted to know anything about it. He was a kind-hearted and perfectly honest man. He neither knew nor cared to know what the real condition was with which he was dealing, so that both he and his patient were playing a game of chance. He often said: 'I can cure you; what more do you want?'" Dr. Hood relates: "He had but a plain education, was entirely destitute of anatomical knowledge, and firmly believed the truth of his ordinary statement that the joint was out." Hood was at first afraid of using too much force, but after considerable experience with Hutton concluded that this was not to be feared. One must be careful, however, not to forget the skill and dexterity of Mr. Hutton in this relation. That accidents may and do occur in hands less skillful than Mr. Hutton's is well known, and was called attention to by Paget, who spoke of a fractured arm, and Proll reported in the *Lancet* two cases where suppuration and death had occurred after manipulation.

The manipulation consists in finding the spot that is painful to pressure, fixing it with the thumb, grasping the limb with short leverage on both sides of the joint with the thumb still kept in place, submitting the joint to flexion or extension or both, or putting it through other motions in the accomplishment of which resistance is encountered. The resistance is minimized by rotating the bone on its own long axis. Details of the manipulation are given in Wharton Hood's book.[23]

The treatment of spinal lesions is most important to remember in considering the relation of bone-setting to osteopathy, remembering that it was published in 1871 and osteopathy "discovered" in 1874, and one has only to read the description of the manipulation for treating spinal lesions in Hood's book and the description of the treatment of the same condition in "Osteopathic Mechanics,"[24] published in 1915, to see that the methods are practically identical.

Before proceeding to the derivatives of bone-setting, osteopathy and chiropractic, it may be well to consider for a moment in what way bone-setting is of the value that it undoubtedly often proves to be.

The surgical world has been on the whole indifferent to the late effects of trauma on joints in producing slight degrees of stiffness or restricted motion. It is a good surgical axiom that a partially stiff joint is always a vulnerable one. The stiffness is due to adhesions, intra-articular, extra-articular, capsular shortening, adhesions of tendons or muscles, and to adaptive muscular shortening. Why they are as detrimental as they surely prove themselves to be is not always easy to explain, except that they restrict normal motion and consequently normal contacts of articular surfaces. If unilateral they cause a twist of the joint in its use, and in use the adhesions are constantly pulled on and irritated, and many a troublesome joint needs only to have its full arc of motion restored to become useful. That the spine is the part of the body on which two of these manipulative cults center their attention seems explained by the fact that between the occiput and sacrum there are 134 separate joints.

*Osteopathy* on analysis seems to be bone-setting, not much modified, but to which has been added a fantastic and unproved pathology to account for the claimed efficiency of its methods. An interesting quotation may be taken from one of the standard osteopathic text-books: "There is no doubt in my mind as to the similarity existing between the conditions which were recognized by so-called 'bone-setters' and those which have formed the basis for the successful advance of osteopathy. The difference lies principally in the educational qualifications."[25] After reading the osteopathic theory of disease one comes almost to admire old Mr. Hutton, who openly announced that he neither knew nor cared to know anything about anatomy.

Osteopathy is said to have originated with Dr. A. T. Still, who first announced its principles in 1874. When he was a boy he suffered from headache. One day he lay down under a tree with the back of his neck in a swing rope and fell asleep, and when he awoke the headache was gone. In 1874 he began devoting his whole time to the development of his science, and it is noted in osteopathic books that he received the same treatment that was accorded to Harvey in the 17th century when the latter discovered the details of the circulation of the blood.[26] In 1892 he established a school.

The theory of osteopathy as advocated by Still, who was a doctor of medicine and a veteran of the Civil War, is that the human body is an exact mechanism properly balanced; that health consists in harmonious adjustments along mechanical, mental and dietetic lines; that slight disturbances of anatomic relations have manifold and far-reaching effects on bodily health and that treatment consists in the readjustment of these displaced parts. "These disturbed relations may occur in any of the structures of the body, so that we may have faulty adjustments of bones, ligaments, muscles, nerves, organs, or even of cells."[27] Obstruction in the spinal column from vertebral displacement may be occasioned at the intervertebral foramina through which emerge nerves and vessels.

The central thought of the science of osteopathy is the "lesion," which has been defined as "any structural perversion which produces or maintains functional disturbance. . . . Lesions are the result of injury, direct or indirect. . . . The term 'lesion' has been used in a restricted sense to mean any anatomical irregularity of a joint abnormal to the individual and the result of injury originating without the joint and intrinsic or extrinsic to the organism itself. . . . A subluxation is an immobilization of a joint in a position of normal motion, usually at the extremity of a given movement."[28] A more modern point of view than this would be to substitute the term "osteopathic lesion" for "subluxation." Just how these lesions produce the effects attributable to them clinically is not explained in the books consulted, and "Osteopathic Mechanics" passes at once to the details of adjustment.

With regard to this new pathology, in favor of which we are to discard all our present ideas, it must be remembered that mere assertion does not establish facts.

Voliva, the successor of Dowie in Zion, under the date of February 1, 1922,[29] asserts that the world is a flat plain surrounded by ice and that the sun is a small body about 40 miles in diameter, 3000 miles away. The sky is a dome of solid material from which the sun, moon and stars hang like chandeliers from a ceiling. Although a certain number will believe this assertion, the larger number will demand proof. And so, in valuing osteopathy, one has a right to ask for proofs that this new osteopathic pathology is correct.

It is therefore interesting to examine the tangible evidence as to this, which has so far been offered. Three varieties of proof are available:

1. In the dissecting room and at autopsy: The claim is made that dissections of bodies reveal anatomical lesions associated with disease of organs; these observations have been made at osteopathic colleges, but such changes have not been observed in the dissecting rooms of the medical schools of the world. The claim

that these "lesions" are found is, therefore, apparently not substantiated by sufficient evidence, which is eagerly awaited.[30]

2. The x-ray: It is claimed that the x-ray has frequently shown an osteopathic lesion which disappeared after reduction. The experience of the medical profession is otherwise. It has only to be remembered how slight a distortion in the line of the shadow will produce the appearance of a displacement in an x-ray, and that the reading of an x-ray differs greatly. I can only state that in my personal experience in one or two instances I have been privileged to have taken in my own x-ray room, under fixed conditions, radiographs before and after the so-called "reduction" of a lesion by others. The closest analysis of the radiographs before and after failed to show the slightest change in the position.

3. Animal Experimentation: Bulletin V, of the A. T. Still Research Institute of Chicago, Illinois, published in 1917, is a contribution to the study of the effects of experimental lumbar "lesions." "Lesions" were produced by forcible subluxation in which it is amusing to note that great care was taken to prevent any injury to the articular tissues. "Lesions" were also produced by gentle taps near the spinous processes of the selected vertebrae. These animals were then studied. So far as one can judge from the decidedly imperfect x-rays reproduced as evidence, a partial fracture of the spine was not uncommon. Various organs were then studied with regard to the effect of these lesions, but the work seems loose and very discursive, and is far from convincing. In this experimental work two especially long steps are taken by making assumptions which will demand better proof before animal experimentation can be of value. These assumptions are: (1) The frequency of osteopathic lesions of a demonstrable character existing in human beings. (2) That such lesions can be duplicated in quadrupeds by wrenching, tapping and manipulating their spines.

My practical experience with osteopathy is not small nor in any way unprejudiced, but is, nevertheless, perhaps worth mentioning. At least half or two-thirds of the patients who consult me have been first under treatment by osteopathy. These, of course, represent the unsuccessful cases, and conclusions drawn from an analysis of them may not be fair, and I presume that a good many of my own failures drift into the hands of the osteopath, but in analyzing the method pursued by them in the cases alluded to, I have not drawn very favorable conclusions as to their efficiency or reasonableness in a fair proportion of the cases. For example, to assume that the disability of poliomyelitis arises from a lesion of the vertebral column is manifestly fantastic and not supported by the slightest evidence. And the treatment of this disease, based on the theory that improving the circulation in the cord is going to do any good, is decidedly unreasonable and very detrimental to the patient in wasting time in the early stages of the disease when reasonable therapeutic measures might accomplish much.

The information given above regarding osteopathy has been derived from a study of books, not to be found in the Boston Public Library, the Boston Medical Library, or the Library of the Harvard Medical School, a condition which seems unfortunate. Nothing, I believe, would do more to discredit the present osteopathy than to make its literature available to medical men and to the more intelligent public.

There are said to be 5,000 to 6,000 osteopaths in the United States. They are registerd and practise in forty-two states. In Massachusetts they take the same examination as that required for registration in medicine, and in the eyes of the law possess the same qualifications as regularly educated physicians. Osteopaths who were in practice at the time the registration law went into effect were licensed to practise without examination.

With regard to bone-setting[31] and osteopathy there can be no question that rough manipulation may cure some cases where gentler methods have not succeeded, but at the same time[31] in many cases cured by the bone-setter, relief might have been afforded by prolonged massage, etc., over a longer period. Apparently bone-setting is most successful in traumatic affections of the joints and spine where recovery has been delayed by adhesions and stiffness.

The unqualified bone-setter in general says that the joint is "out" and that he reduces it. The osteopath says that there is a "lesion" and that he "adjusts" it. The latter adds to bone-setting the explanation of infections and most other diseases by assuming spinal lesions which in an unexplained way affect the system.

Sir Jas. Paget advised the profession in 1867 to "copy what is good in the practice of bone-setters," but manipulative treatment has been and is still neglected, and overlooked by the medical schools and the surgeons, and we cannot, and must not, shut our eyes to the fact that bone-setting is at times effective where the routine surgical measures fail, and that osteopathy is only modified bone-setting.

*Chiropractic.*—When we come to the third and youngest, and least reputable of the three manipulative sisters, Chiropractic, we take a definite step downward. *The Journal of Osteopathy* speaks of chiropractors as "fakers,"[32] but the Supreme Court, of Montana, handed down a decision that "chiropractic is nothing

more nor less than osteopathy under another name."[33]

Chiropractic was "discovered" in 1895 by Mr. D. D. Palmer,[34] who had had some experience as an unsuccessful magnetic healer, in the following way, as related by his son, J. J. Palmer.[35] "Harvey Lillard was a janitor in the building in which father had his office at the time, in the Ryan block at Davenport, Iowa. Harvey came in one day thoroughly deaf. Father asked him how long he had been deaf, and he told him seventeen years. Father said, 'How did this occur?' Harvey said, 'I was in a stooped, cramped position, and while in that position I felt something pop, and heard it crack in my back.' Father looked him over, laid him down on the cot, and there was a great subluxation on the back. Harvey said he went deaf within two minutes after that popping occurred in the spine, and had been deaf ever since, seventeen years. Father reasoned out the fundamental thought of this thing, which was that if something went wrong in that back and caused deafness, the reduction of that subluxation should cure it. That bump was adjusted, was reduced, and within ten minutes Harvey had his hearing, and has had it ever since."

In this simple way Chiropractic was born. With regard to this birth of Chiropractic, an amusing incident occurred in the trial at which Mr. Palmer testified. He was asked whether his father did not give birth to Chiropractic. He gave a negative answer, stating that his father, not being an obstetrician, could not give birth to Chiropractic. Mr. Palmer seems to have confused in his mind the relative function of the obstetrician and the mother in labor, and seems to have the idea that it is the obstetrician, and not the mother, who gives birth to the child.[36] Mr. D. D. Palmer was later succeeded by his son, Mr. J. J. Palmer, the present head of the Palmer School of Chiropractic (the mother school), to be described later. The junior Mr. Palmer received a grade school education, and at the age of 11, being "kicked from home," as he expressed it in Court, was a practitioner at the age of 12. He subsequently took the degree of D. C. from his father's school and still later received the honorary degree of Ph.C. from the faculty of the same school, of which faculty of eight his wife was a member.

The basis of the so-called "science" is the so-called "chiropractic subluxation" of a vertebra. This means a slight or partial separation between the articulations so that they are not exactly together. When a subluxation occurs there begins a pressure on the nerve coming thru the intervertebral foramina and this shuts off the flow of life force going thru that nerve and acts as a rheostat or booster to the current going through it. Chiropractically speaking, disease is simply a register as to the amount or excess of current that an organ receives at the end of the nerve: Slight pressure "steps up" the current; heavy pressure paralyzes. One would, therefore, adjust for cancer or gonorrhoea.

This theory of disease is too fantastic, crude and unsupported to warrant discussion, but it spells danger to the community and to what lengths it will go can only be appreciated by reading the testimony of B. J. Palmer in the Wisconsin courts.[37]

One passes next to the feature which is most prominent in the chiropractic advertisements: that is to say, the commercial side of the science. As an instance of the chiropractic attitude, the following figures (no source quoted), are taken from the *Metropolitan Magazine*[38] advertising section. "The following statistics of the 1818 influenza epidemic are respectively submitted; one out of every sixteen patients died under medical treatment; one out of twenty-seven under osteopathic treatment; one out of 513 under Christian Science; one out of every 886 patients under chiropractic adjustment." This advertisement is put out under the name of the Universal Chiropractic Association, Davenport, Iowa. It is interesting to note that this town is the headquarters of the Palmer School, which will be spoken of presently.

Another advertisement speaks of chiropractic as "the great modern school of healing physical ills," and goes on further to state that "the hand which does the work must be trained and skilled, and guided by the well-trained brain of the chiropractor. The use of the hand alone is not sufficient; the head must back it up, guide and direct its progress." This startling statement, that it is necessary to use the head, is derived from the annual announcement of the American University, chartered by the State of Illinois, and located in Chicago.

It may be interesting to show along what lines this university proposes to teach the scientific basis of chiropractic. The home study course of the university confers the degree of D. C., Doctor of Chiropractic. It is gratifying to note that the course is "the most complete, most concise, and most practical ever prepared." The complete course comprises 16 sections, each section contains from 3 to 5 lessons—65 lessons in all.

In addition to the instruction which is placed at $105 for the entire course (reduced for cash), the student receives absolutely free a full set of eight large anatomical and physiological charts, regularly valued at $15, a bound manual which furnishes a complete guide to them; and a complete set of four regional compendigraphs, whatever these may be; a set of five illustrative spinal columns; a complete set of

five colored nerve pain area and commusion charts, worth $16.50. To poor, but deserving students, the following equipment is also given free upon payment of the enrolment fee: one urine test case and set; one stethoscope; one nickel-plated tongue depressor; one metal plexímeter; one tested clinical thermometer; one genuine Flint pattern percussion hammer; one illustrated text-book on the Theory and Practice of Osteopathy; one De Luxe Dictionary of 1,000 pages; one magnificent complete set of eight grouped lithographed anatomical and physiological charts; one bound manual. Their generosity does not, however, stop here, for, at the completion of the course, the regular University diploma is conferred without extra charge upon the students with the degree of Doctor of Chiropractic; and, in order to give the graduate "the right start," 100 adjustment cards, "which you give to patients," and "1000 pamphlets with your name and address printed on them, which tell prospective patients all about chiropractic," are also given free. According to the prospectus, "this advertising material will bring you into prominence and should quickly crowd your office with patients."

Each student is obliged to sign an agreement: "I hereby agree to hold all instructions and information, which I receive from you in absolute confidence, and will not permit others to see the lessons or to study the course."

The requirements for admission to this course are surprisingly simple. "Any man or woman of average intelligence, who has a common school education, may acquire a thorough, complete, and efficient knowledge, in the art and science of chiropractic by means of the instruction" given in this course. All that is required on the part of the student is "a conscientious persevering study of the lessons, and a faithful observance of the rules and practice given therein." . . . "Many elderly persons have taken up the profession and have done well with it." The age advised for beginning the course is 21 years for men and 18 or more for women; but many students and graduates are over 50, and certain students over 60 have done most excellent work.

Another advantage of the course offered is that the student is able to practise his profession during the course. It is not stated at what period of instruction one becomes proficient, but students are often able to make money while they are learning. For example, Dr. B. earned over $200 while taking the course, and Dr. D. made from $3 to $5 every day while studying. After 10 weeks' study, Dr. S. could earn $35 a week.

It is, therefore, evident that as a financial proposition, as exemplified in this course, chiropractic offers very great inducements. The only thing which it is difficult to understand is that an institution which offers such great financial advantages should need to take such pains to secure students. Late in September, 1919, an advertisement was published, offering for nothing, anatomical charts, estimated at a fairly high value. A woman, who was interested to see where the catch was, wrote a letter, asking how these might be obtained. She was informed that these charts were given when the enrolment fee was received, and she has since received from the University a succession of letters up to date, the first being in October, 1919, and the last one in January, 1922. After the first one or two, the letters are addressed "Dear Friend:" and suggest that they are form letters. They have also come with a curious regularity, and from the 1st to the 15th of the month in October, November, December, 1919; January, February, March, April, May, and November, 1920, and January, 1922. During this time she has received 10 enrolment blanks, the annual catalog of the University, a pamphlet, "The Great Profession for Women," and a large number of miscellaneous circulars.

This course apparently corresponds to the cheap medical school now driven out of existence; but as a chain is no stronger than its weakest link, the chiropractor need be no better than that pictured in the foregoing description.

Further light is, however, thrown on the subject of chiropractic education and principles, by Dr. George Dock, of St. Louis, in an admirable account[39] of his visit to the mother school, already referred to, which may presumably be taken as representing their highest standards. The following comment of his must be taken seriously: "It is true, in a sense, that the method of study followed, and the methods of practice, inculcated are not worth the consideration of intelligent people; yet the fact that more than 3,000 potential voters spend a number of months and several hundred dollars apiece in getting the so-called training in a single school is a matter worth the consideration, not only of physicians, but also of hygienists, economists, psychologists and jurists."

The guide explained the theory of chiropractic to Dr. Dock "by means of the narrowed foramina in the scoliotic specimens, showing how the "vital force" that should go through the nerves has difficulties. He also talked much about the "innate mind," which he was confident was wholly independent of the body."

The chief method of treatment, and the one to which a large amount of the student's time is devoted, is the "chiropractic thrust." Form is acquired by practice on "pieces of gas-pipe with a cap on top and a fairly strong spring inside. . . . . The 'thrust' is a quick spontane-

ous push with the heel of the hand upon the bony process of misalined vertebrae."

Dr. Dock describes the method of treatment as follows: "The patient lying down, a rapid palpation is sometimes made, very often, in fact, none at all, as the site to be treated is already known; then the left hand is arranged for the thrust, the other hand fastened around the wrist, and a rapid push downward is made, the whole thing taking much less time than it takes to describe. A girl student sitting next to me, who said she had often been adjusted, said the palpation and thrust had no particular local effect, such as tickling. Those who imagine that the treatment is used only for local diseases should hear the recommendation of the effects in general malaise, as from being up too late at night; the value of the treatment for workmen, and its use in blindness, deafness, cancer of the stomach and liver, smallpox, measles influenza, etc." So much for the educational side.

*Leslie's Weekly* states that, from their own figures, chiropractic practitioners number 10,000 in the United States, with nearly 1,000,000 patients, who contribute to their coffers between $50,000,000 and $60,000,000 annually;[40] and a prominent doctor of chiropractic recently stated that there was a demand for 100,000 chiropractors in this country today.[41]

*Leslie's Weekly* speaks of a chiropractor, who was formerly a carpenter and who, last year, made $8,000 in his business.[42] Another chiropractor,[43] in Illinois, was 32 years old when he took "the science" up. Lack of education, amongst other things, had held him back. He had to borrow about $400 to get through school. In addition to relieving a great deal of suffering, which must have been a remarkable satisfaction to him, he has saved money. He has three automobiles, not Fords, owns real estate to the value of $7,000 to $8,000, and pays income taxes.

Another gentleman, no longer young, but 72 years old, this year, is apparently finding his practice interesting, and it runs from $700 to over $1,000 a month.

*Leslie's Weekly* quotes a keen observer of chiropractic as follows: "This is certainly wonderful business, this chiropractic; I have seen enough. I am going to take a course and practise. I can do it on the side in addition to my restaurant business."

"Acres of diamonds and pelions of gold are promised to the sober and industrious young chiropractor in a pamphlet issued by the New York College of Chiropractic. . . . And the beauty of it is," continues the pamphlet, "that here it is assured without the hardships and the strain of mining towns."[44]

Moreover, to judge from the testimonials, chiropractic seems particularly suited as a profession for old and broken down men, and for those unable to get anything else to do.

Chiropractors claim that they are licensed to practise in 22 states. The Universal Chiropractors' Association guarantees the graduate "the legal right to practise; or we will, thru process of the law, know the reason why. . . . The fact that chiropractors are practising in every state in the Union, and that the U. C. A. has not failed to protect them speaks for itself."[45]

In Massachusetts they have no standing whatever. The escape for the chiropractic in this state is to register as a masseur, but to pose as a chiropractor. If he is caught, he has only to claim that he is practising massage. It seems not unlikely that a definite attempt will be made in this state to establish a licensing board for chiropractic.

5. *The Amateur Quack.*—The last and fifth division of the irregular practitioner has not been, up to this time, sufficiently appreciated. The amateur quacks out-number all the others put together. They are active in every community. They are actuated by altruistic motives and they do only a moderate amount of harm. The prevalence of these amateurs in medical matters is not new.

"It is related that Alfonse D'Este, Duke of Ferrara, one day in conversation wondered what trade or profession was most common. His fool, Gonelle, at once said that the art of medicine had the largest number of professors, and wagered that he would prove his assertion within twenty-four hours. The next morning, Gonelle came out of his dwelling, his head swathed in wrappings, his hat crushed down upon his head, and his shoulders huddled up under his cloak. The first man he met asked him what was the matter. He answered: "I have a frightful toothache." "Ah, my friend," said the other, "I know the best cure for that," and told him of it. Gonelle wrote his name on his tablet, pretending also to make a note of the recipe. The whole length of the street he met no one who did not tell him some cure or other, all different from the rest, but declared to have been thoroughly tried and to be infallible in its operation. On reaching the courtyard of the palace he found himself surrounded by people who were also eager in offering advice. Their names also went down on his tablets. When he entered the Duke's chamber His Excellency at once called out, "What is the matter, Gonelle?" The fool answered that he had a toothache; whereupon the Duke said, "I know something that will stop the pain at once, even if the tooth is decayed. Messer Antonio Mussa Brassavalo, my physician, has never ordered anything better. Do this, and that, and at once you will be cured."

Gonelle then threw off his wrappings and exclaimed, "You, too, my lord, are a doctor. I have already on my way hither, although I had to pass along only one street, found more than two hundred others. Here is the list. I am ready to bet that I should find more than ten thousand if I went all about the town. Can you find more people practising any profession?"[46]

If any one of you will do your knee up in a ham splint and bandage, and take a pair of crutches and go three or four miles in the trolley cars, you will find out two things:

(1) The desire of everybody to be considerate and to make room for the invalid to sit down.

(2) The curiosity, unconcealed, but outspoken, of many of your fellow passengers as to the cause, history, and progress of the ailment. People who have never heard of Mr. Howells' well-known man, in Chicago, who made his fortune by minding his own business, are eager to offer advice. You may give them whatever diagnosis you like, varying from a sprained knee to sarcoma, or fractured patella, and you will find that they have either had it themselves, or had a relative or friend who had it, and the treatment by which he was cured was something entirely different from yours, unless the result was fatal, in which case you will be informed of that. The number of remedies proposed is legion and it is surprising to find that more people are not unsettled by this sort of thing.

This form of irregularity requires no legislation. It has always existed and it always will, for this tendency represents an inherent quality in human nature: the desire to give advice.

*Conclusion.*—We are, it seems to me, too prone to regard the irregular practice of our own day and in our own community as a particular misfortune and an unprecedented folly on the part of the public. For that reason I have tried to show that irregular practice has always been and probably always will be with us in varying form, but that in general it follows well-defined channels, inasmuch as it rests on an inherent tendency in the human race to believe in the wonderful, the mystical, the obscure, the new, the unusual and the irregular. There are hundreds of men all over the country, waiting to buy gold bricks or to entrust a roll of bills to a stranger while he goes to the bank for more.

Today Christian Science and manipulative methods hold the centre of the stage; if they were wiped out, some other form of irregular healing would take their place. Christian Science developed under a wonderful woman, who understood advertising and business matters in a very practical way; but she is dead and her successors are quarreling.

Osteopathy is in reality bone-setting with a pseudo-scientific explanation superimposed, but chiropractic seems merely a cheap commercial enterprise, modelled on osteopathy—too successful, growing too fast, and too self-confident to endure permanently, although at present it is a real menace to the health of the community.

The present situation should not be taken too seriously in view of the history of the past, nor too lightly in view of the public health of the future. Our attitude as a profession has been to shut our eyes to these cults, to denounce them in general terms, and to restrict them as much as possible. But that is not the way that nostrums were so effectively restricted in the campaign a few years ago. There, instead of condemning them in general terms as had been done previously, the terms were specific; each nostrum was analyzed and the analysis given full publicity. It was shown that alcohol, morphia and cocain were being distributed under false pretences, and so general was the publicity that legislation of an effectual character was compelled.

Miracle healing and mental healing, when associated in any way with religious belief, cannot be argued about, and may only be restricted to the extent of preserving the health of the community and safeguarding so far as possible the avoidable deaths of innocent persons at the hands of religious fanatics.

With regard to manipulative methods, we should, it seems to me, adopt a definite course of action toward the present condition, already begun by the *Journal of the American Medical Association*, and instead of excluding the literature of irregular cults from our libraries, we should, I believe, give it the widest publicity and encourage students and practitioners to familiarize themselves with it. Nothing can be more detrimental to absurd claims than a free and general knowledge of their literature. Those in doubt about chiropractic need only to read the testimony of Palmer before the Wisconsin courts to realize how slender is the scaffolding on which chiropractic rests, a "science" which has a school of 2000 to 3000 students.

Secondly, we should, I believe, teach our medical students the principles of physical therapeutics, and show them why manipulative methods are at times beneficial. In order to do this we should investigate these manipulative methods ourselves. The average practitioner of today condemns and deplores these manipulative cults, but without sufficient knowledge of what they really are to make his condemnation effective. This method has proved unsuccessful and unsatisfactory in restraining them. Let us, therefore, attempt to inform the practitioner, the student and the public as to the bases as well as the claims and pretences

of these cults, and finally let us return, in closing, to the comforting statement that you can't fool all the people all the time.

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## GUMMATOUS CERVICAL ADENITIS.*

BY WM. PEARCE COUES, M.D., BOSTON.

GUMMATOUS cervical adenitis is one of the most uncommon manifestations of syphilis, as are all gummatous infiltrations of the superficial lymph glands. According to Fasal[1] the credit of the first description of gummatous lymph glands belongs to Potier[2] of France, who wrote on the subject in 1842. Salneuve,[3] Sarrhos,[4] and Cahen,[5] followed with articles in the fifties, and a number of papers had been written on the subject of this rare manifestation when Fasal's classic article appeared in the German *Archives for Dermatology and Syphilis* for 1910. This, and the article by Wile,[6] in the same *Archives*, published in 1912, give the best account of the condition in the present literature. Fasal's article deals with gummatous lymphoma in general, while Wile's paper is on gummata of the superficial lymph glands.

American literature recorded two articles on the subject up to 1912, and most of the very recent textbooks, devoted entirely to syphilis, either give very brief mention of the condition or do not speak of it at all.

Wile estimated that at the time of his article, the number of reported cases of gummata of the superficial lymph glands was well under one hundred.

The condition is of interest to the surgeon as well as the syphilologist. In hospital practice, the cases are apt to find their way into the surgical out-patient department, rather than into the dermatological or syphilis department. The cases are apt to be confused with tuberculosis of the cervical lymph glands, with Hodgkin's disease, and with lymphosarcoma. All those who have studied the subject agree as to the extreme difficulty of making a diagnosis by microscopic examination. This is especially so in regard to tuberculosis. McLeod[7] says: "The differentiation by the microscope between the granulomata of syphilis and tuberculosis is always difficult and sometimes impossible; for example, in syphilitic gummata, where a histological architecture may be present which resembles that of a lupus nodule in every detail with the exception of the presence of tubercle bacilli."

The histological side of the subject, Fasal tells us, has been studied by Cornil, in 1878, who wrote of the different histological appearances in the glands affected in tertiary syphilis and in primary and secondary syphilis. He found a general hyperplasia of the gland substance and a hyperplasia of the endothelial cells. Lustgarten[9] has given the most perfect clinical description of this condition that has been written. He described the clinical appearance of the glands as the seat of gummatous inflammation. He found that the inguinal glands are the most commonly affected, and next, the cervical glands. They vary in size from a cherry to an orange, the general rule being that they are walnut size. There is seldom pain associated with the swellings. The skin over the glands may become adherent, reddened, and, finally, the gland may rupture by a tiny opening, which enlarges, and in time a typical gummatous ulcer develops.

Ramage[10] wrote on the subject of gummatous adenitis in his Paris Thesis in 1880. His conclusions were as follows: Gummatous degeneration of lymphatic glands is a rare manifestation of tertiary syphilis. It most often appears one year after the primary infection. It occurs in conjunction with other tertiary manifestations, or may occur as an isolated phenomenon. As a rule, only a few glands are affected, seldom more than three. He places the incidence of the swellings in the same order as Lustgarten; first, inguinal, then sub-maxillary, and then other cervical glands. The diagnosis is often made with the greatest difficulty. The tumors must be differentiated from gummas of the skin and of the adjacent muscles, as well

*Read at a meeting of the Out-Patient Staff of the Massachusetts General Hospital, March 29, 1922.

as from the satellite gland of a primary lesion. Also, there is difficulty in differentiating the glands from those affected by malignant disease. He believes the prognosis as to complete cure of the lesion good. The treatment must be both local and general.

From a study of the literature of the subject, it would seem that a number of former great syphilographers had written of the condition, and it was their conclusion that this was a rare but perfectly definite manifestation of syphilis, which clinically responded to the therapeutic test in a manner as to leave no doubt as to the diagnosis.

Virchow[11] mentions an early leucocytosis, and later a progressive anaemia, during the course of the trouble. He distinguished three stages in the inflammatory condition of the glands. First, the stage of simple irritation, during which the intercellular substance maintains a gelatinous consistency; second, a medullary stage, during which there is active cell proliferation, puriform softening of the tumor mass, and softening of the intercellular substance; third, the stage of caseation, in which active cell proliferation becomes less marked, but in which the main cell types are connective tissue and granulation cells.

Fasal examined gland fragments from his cases, and in one there was the picture of endarteritis obliterans, which he regarded as very suggestive as to the character of the process. Löwenbach[12] thought that at times the histologic picture could not be differentiated from that of some forms of sarcoma.

At the present time, doubt has been expressed by pathologists and clinicians as to the true location of these swellings, the thought being that they are perhaps in muscles near or around glands, or gummatous swellings over the glands, fascia, or skin. The absence of the treponema from most tertiary lesions leaves microscopic proof of the cause of the swellings wanting also. It is necessary to judge the matter broadly, and all that can be said is that the neck masses look like enlarged glands, feel like them, and have totally disappeared under specific treatment. In this connection it is fitting to remember the great controversy between Fournier and Charcot concerning the etiology of tabes, Fournier proving on purely clinical grounds, from his vast experience with thousands of syphilities, that where there was no syphilis, there was no tabes,—a fact that was the triumph of pure clinical deduction, from a master of the subject.

The following case is the fifth I have recorded, which clinically came under this head, the other being recorded in the BOSTON MEDICAL AND SURGICAL JOURNAL for November 8, 1915.[13]

E. L. F., male, 33. Married, with two children. Was seen in the Surgical Out-Patient Department of the Massachusetts General Hospital on February 1, 1922. There was a history of a penile lesion five years previously, but the patient gave no history of having noticed any secondary symptoms. Has been well and at work. Three months ago he noticed swelling under the jaw, and then on the right side of the neck, behind the ear. The swellings gradually increased in size and the one on the right side became somewhat reddened; no pain or discomfort, however, was noticed.

Examination showed a well-developed and nourished man. The pupils were slightly oval and stiff, reacting to light and distance, however. Station was good and the knee-jerks were present. The tongue was rough, and near geographical. Mouth clean; no leukoplakia noted.

On the left side of the neck, in the submaxillary region, was a firm, non-tender mass, the size of a lemon, clinically having the appearance of a considerably enlarged lymph gland. The mass was not fixed or tender to palpation, the skin was not reddened or adherent over it.

On the right side of the neck was a mass, posterior to the upper third of the sterno-cleido-mastoid. This was somewhat reddened, not boggy, not tender and not adherent. There was no glandular enlargement noted elsewhere. The Wassermann reaction was strongly positive. A blood smear was negative for leukemia.

The patient was transferred to the South Medical Department of the Hospital. In one week's time there was considerable improvement in the swelling of the neck. The case was regarded as probably one of gummatous cervical adenitis, with a realization that the reaction to later treatment would perhaps be the criterion as to the probable correctness of the diagnosis.

In those cases of this condition which I have seen, with few exceptions the patients have been well-nourished, the masses have been painless, and clinical signs of tuberculosis have been conspicuous by their absence; but in certain cases it is possible there is a relation between the two conditions.

Wile's[6] case is of much interest, inasmuch as the treponema were recovered from the gland and demonstrated by the dark field. The patient, a young man 19 years of age, had received his primary infection (penile) some five months before. While receiving large doses of mercury at this time, the glands on the left side of the neck began to swell rapidly. The record stated that a "left supra-clavicular gland was enlarged to the size of a plum; it was readily movable under the skin, which was somewhat reddened over it. The gland was somewhat fluctuant. A somewhat smaller tumor, involving the lowest of the posterior cervical chain, was seen behind the sterno-mastoid muscle. The skin was reddened and the gland fluc-

tuated. The uppermost gland of the posterior cervical chain and that over the mastoid process were both enlarged to the size of an olive, firm, elastic, and not fluctuating, and the skin covering them showed no change. On November 11, 1911, the largest of these four tumors, the supraclavicular, was punctured with a fine hypodermic needle and a few drops of sero-purulent fluid were aspirated with a syringe. With the aid of the dark field illumination, a few typical spirochetes were found. On the 17th of November both of the larger, fluctuating glands ruptured through pin-point openings, which rapidly enlarged until they took on the appearance of typical punched-out gummatous ulcers of the skin from which a thin sero-purulent exudate was discharged. Rapid healing took place under salvarsan, though it was not complete at time of writing, one month after treatment."

It would seem that in this case the diagnosis was certain, but the hypercritical will no doubt say that the supposed glands were in reality not cervical lymph nodes. The distinction, however, of the actual tissue invaded is rather of academic than of practical interest, the fact of importance being that these masses in the neck, due to syphilis, are not infrequently unrecognized as such, with resulting misfortune to the patient and chagrin to the physician.

Where there are also undoubted signs of syphilis, and a positive Wassermann reaction, the nature of the enlargements in the neck region is sometimes suspected, but with negative blood, and no signs, and often no history of syphilis, the condition is most baffling, and judgment must be by the therapeutic test, the application of which will often richly repay the physician.

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## MEMBERSHIP CHANGES IN THE MASSACHUSETTS MEDICAL SOCIETY FOR THE MONTH OF JUNE, 1922.

### OFFICIAL LIST (5TH).

Compiled by the Secretary of the Society.

#### ALPHABETICAL LIST.

Adler, Herman M., Chicago, Ill., now 721 South Wood St.

Allan, Arthur Wilburn, transferred by Council from Norfolk to Suffolk.

Armstrong, Donald Budd. Resignation accepted by Council.

Barach, Alvan Leroy. Resignation accepted by Council.

Bell, James Francis, Jr. Resignation accepted by Council.

1909 } Blanchard, William Herbert, Boston, 1069
1922 } Boylston St.
Restored by the Council, June 13, 1922.

Borden, George E., from Adamsville, R. I. (non-resident), to Fall River, 132 Franklin St. (Bristol South).

Butler, David Mathew. Resignation accepted by Council.

Cameron, Isabella L., Minneapolis, Minn., Woman's Maternity Hospital.

Cleaves, Helen Taft, from Palmer to Pacific Grove, Calif., 149 8th St.

Constans, Frank Elmore, died at Brockton, May 29, 1922, aged 55.

Crawford, Francis Xavier. Transferred by Council from Middlesex South to Suffolk.

Dearborn, George Van Ness. Resignation accepted by Council.

De Lue, Frederick S. Office now Boston, 84 Commonwealth Ave.

Dolan, William Francis, from Brookline (Norfolk), to Brighton (Middlesex South). Office, Boston, 430 Marlboro St.

Eaton, Henry Douglas. Resignation accepted by Council.

Elliott, Russell D., Boston, now 9 Dwight St.

Finnegan, Francis A., from Worcester (Worcester), to Lowell, 491 Lawrence St. (Middlesex North).

Flett, Penelope McN., from East Gardner to Wakefield, 76 West Chestnut St. (Middlesex East).

French, Leland M., from Worcester to Pittsfield, South Street Apartments (Berkshire).

Fuller, Andrew H., from Fiskdale (Worcester), to Templeton (Worcester North).

Gervais, Harriet Marion, now Higgin, Harriet M. Gervais, Allston. Office, Boston, State House, Div. Child Guardianship.

Gordon, Louis, Boston, now 20 Charlesgate West.

Gurjian, Leon K., Worcester, Now 204 Main St.

Haines, Samuel F., from Boston to Rochester, Minnesota, 711 7th St., S. W.

Hall, William Dudley, Boston. On retired list by action of Council.

Handy, Harry Tucker, transferred by Council from Plymouth to Norfolk South.

Hebbard, Ellery Cola, Boston. On retired list by action of Council.

Heffernan, David A., Boston, now 270 Commonwealth Ave.

Hodgdon, Frank Wellington, Jr. Resignation accepted by Council.

Janjigian, Robert Rupen. Resignation accepted by Council.

Jelalian, Hairabed S. Resignation accepted by Council.

Jenkins, Charles Edwin, Boston. On retired list by action of Council.

Jones, Chester Morse, transferred by Council from Middlesex South to Suffolk.

Keown, James Archibald. Resignation accepted by Council.

Kinne, George Lyman. Resignation accepted by Council.

Lancey, Clifford S., from Charlton (Worcester), to Gardner. Gardner Trust Bldg. (Worcester North).

McLaughlin, Arthur Otis, died at Haverhill, June 18, 1922, aged 42.

Marnoy, Samuel L., Chelsea, now 254 Washington Ave.

Meaker, Samuel Raynor, transferred by Council from Norfolk to Suffolk.

Moir, Marguerite Winifred, transferred by Council from Norfolk to Suffolk.

Nichols, Edward Hall, died at his home in Boston, June 12, 1922, aged 58.
Norton, Eben Carver, Norwood, now 38 Cottage St.
Parris, Roland Oliver, transferred by Council from Middlesex South to Suffolk.
Pettingill, Warren Martin, from West Somerville (Middlesex South), to Lawrence, U. S. Veterans' Bureau, 21 Hampshire St. (Essex North).
†Pratt, Calvin, died at Bridgewater, June 17, 1922, aged 80.
Sachs, Benjamin, from Beverly (Essex South), to Norwood (Norfolk), 893 Washington St.
Siragusa, James Joseph, transferred by Council from Norfolk to Suffolk.
†Stephenson, Franklin Bache, from Claremont, Calif., to Washington, D. C., Wardman Park Hotel.
Stetson, Frank Eliot, from Nonquitt to South Dartmouth.
Van Deursen, George L. Lowell, now 226 Central St.
†Webber, Samuel G., from West Roxbury (Norfolk), to Newtonville (Middlesex South), 15 Rossmere St.
Weyher, Russell F., from Boston to Detroit, Mich., 1229 David Whitney Bldg.
Wood Nelson Merwin, transferred by Council from Norfolk to Suffolk.

ADDRESSES UNKNOWN.

Azadian, David George. (Not in Fresno, Calif.)
Lawlor, John Charles.
McClintock, Elsie.

**Changes of address should be sent to the Secretary, Dr. Walter L. Burrage, 42 Eliot Street, Jamaica Plain, 30.**

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NEW FELLOWS ADMITTED FOLLOWING THE EXAMINATIONS OF MAY 4, 1922, WITH THEIR ADDRESSES.

A

Albert, Lionel Louis.....Central Falls, R. I.
62 Pacific St.

B

Bacon, Gorham .....Barnstable.
Address, Yarmouthport.
Barstow, Carl Elijah.....Everett. 519 Broadway.
Bassett, Alice Haley.....Boston.
510 Commonwealth Ave.
Berkowitz, Arthur .....Roxbury. 2 Hutchings St.
Biddle, Stephen Mulford.Cambridge.
330 Mt. Auburn St.
Blackett, Charles Wesley, Jr. ..... West Newton. Office, Boston, 35 Bay State Rd.
Bliss, William Everett...Medford. 168 Forest St.
Bogusz-Wlazlo, Ladislaus...Cambridge. Office, Boston, 220 Hanover St.
Boland, Benedict Fenwick.Boston.
Boston City Hospital.
Braverman, Aaron Henry.Lowell.
105 Chelmsford St.
Buckman, Thomas Ellwood Boston.
Boston City Hospital.
Bunce, James Walter...North Adams, 332 Main St.

C

Campbell, Kleber Alexander..Hopedale.
Comins, James Brooks...Springfield. 4 Chestnut St.
Corriden, Thomas Francis.Northampton,
16 Center St.
Cregg, Herbert Alexander.Lawrence. 477 Essex St.

D

De Cicco, Luigi Marius..Fitchburg. 361 Water St.
Downey, Hugh James....Pittsfield. 184 North St.
Dwyer, Philip Roche.....Salem. 354 Essex St.

E

Edwards, Martin Russ...Wayland, State Rd., East.

F

Favaloro, John .....Lowell, St. John's Hospital.
Fulstow, Marjorie .....Boston. Boston City Hosp.

G

Galleani, Ilia .....Boston. 196 Hanover St.
Garoyan, Gaspard .....Boston. 447 Mass. Ave.
Glickman, Hélène Sarah..Springfield.
476 Chestnut St.
Gordon, George Korolick.Malden. 458 Main St.

H

Haley, Paul James Dodge Medford. 49 High St.
Hamilton, Wallace Field.Newton. Newton Hospital.
Hannaford, Charles William Portsmouth, N. H.
39 Pleasant St.
Harrington, Winthrop Wendell Worcester. Worcester City Hospital.
Hawley, Ralph Ernest Dudley Lynn. "The Breakers," Lynn Shore Drive.
Healy, Harrison Thomas.New Bedford.
1174 Pleasant St.

J

Jordan, Sara Murray....Brookline. 5 Babcock St.

K

Kamberg, Samuel .....Boston. 687 Boylston St.
Klein, Alvin Walter.....Stockbridge. Lee Road.
Knowlton, James Edward.Quincy. 579 Hancock St.
Kraus, Dorris May Presson Framingham. P.O. Box 99.

L

Laserson, Joseph .....Roxbury. 37 Munroe St.
Littlehale, Roy Frederic..Hanson.
Plymouth County Hosp.

M

Marble, Howard Bennett.Shelburne Falls.
63 Bridge St.
McCormick, William Aloysius New Bedford.
28 Parker St.
McDonald, Harry Leo....Malden, 221 Highland Ave.
McSweeney, Joseph Henry.Somerville. 22 Bow St.
Monette, Camille Joseph.Taunton. 453 Bay St.
Moses, Alvin Raymond...Worcester.
Worcester City Hospital
N

Nichols, Alvord Gates....Worcester.
Worcester City Hospital.
Nichols, Andrew, 3d.....Hathorne (Danvers).
322 Newbury St.

O

O'Brien, Thomas Francis.Worcester.
Worcester City Hospital.

P

Paul, Frederick Henry, Jr.Newton. Newton Hospital.
Peterson, Carl Adrian....Worcester.
Worcester City Hospital.

R

Rice, Kenneth Harrison..Worcester.
Worcester City Hospital.
Root, Howard Frank....Roxbury. 11 Tetlow St.
Royal, Kent Tyler.....North Brookfield.

S

Sharp, Benjamin Samuel.Boston. Boston City Hosp.
Shay, Edward Francis...Boston.
270 Commonwealth Ave.
Shubert, Julius .....Boston. 29 McLean St.
Sterns, Albert Henry.....New Bedford.
1149 Acushnet Ave.

T

Tartakoff, Samuel .....Taunton.
Taunton State Hosp.
Tashian, Hovnan Nazaret.Cambridge. Office, Boston, 636 Tremont St.
Taylor, Jay Richard.....Fairhaven. 348 Main St.
Thomas, Abraham Fifield.Newburyport. 1 Orange St.
Thompson, John James..Taunton.
1910 } Toppan, Albert Brookings.Watertown.
1922 } Restored by Censors. 293 Mt. Auburn St.

W

Webber, Isaac Mervyn....Worcester.
Worcester City Hosp.
Wight, Freeman Clark...Boston. 192 Dartmouth St.
Williams, Hubert Joseph.Boston. 130 Newbury St.
Wolfson, Louis Elijah...Boston. 520 Beacon St.
Worcester, George Franklin Haverhill, 26 Summer St.

Z

Zelig, David .....Boston. Boston City Hosp.

# The Massachusetts Medical Society.

## PROCEEDINGS OF THE SOCIETY.

### *First Day, June 13, 1922.*

CLINICS were held at the principal hospitals of Boston during the morning, according to a revised program published in the BOSTON MEDICAL AND SURGICAL JOURNAL, the official organ of the Society, in its issue of June 8, 1922. The Sections of Surgery and Pediatrics held their meetings at 10 A.M. in buildings C and B, respectively, at the Harvard Medical School on Longwood avenue, Boston. At 11.30 A.M. the Supervisors held their annual meeting in Building A amphitheatre, at the school, ten Supervisors being present and the usual business transacted. At noon the Council met in the same room, one hundred and fifteen signing the two attendance books. (See Proceedings of the Council.) During the afternoon the Sections of Medicine, Tuberculosis, and Hospital Administration held their meetings at the school in Buildings C, B, and E, respectively.

The attendance and the officers elected for the next year were as follows:

SURGERY: Attendance 150. Officers for 1923:
CHAIRMAN, J. B. Thomas, Pittsfield.
SECRETARY, G. A. Leland, Jr., Boston.

PEDIATRICS: Attendance, 90. Officers for 1923:
CHAIRMAN, A. C. Eastman, Springfield.
SECRETARY, J. H. Young, Jr., Newton.

MEDICINE: Attendance, 150. Officers for 1923:
CHAIRMAN, B. W. Paddock, Pittsfield.
SECRETARY, F. M. Rackemann, Boston.

TUBERCULOSIS: Attendance, 200. Officers for 1923:
CHAIRMAN, E. O. Otis, Boston.
SECRETARY, S. H. Remick, Reading.

HOSPITAL ADMINISTRATION: Attendance, 48. Officers for 1923:
CHAIRMAN, J. J. Dowling, Boston.
SECRETARY, E. W. Wilson, Boston.

NEW SECTION OF OBSTETRICS AND GYNECOLOGY:
CHAIRMAN, C. E. Mongan, Somerville.
SECRETARY,

In the evening the Shattuck Lecture was delivered in John Ware Hall, Boston Medical Library, by Dr. Elliott P. Joslin of Boston. Subject: "The Treatment of Diabetes Mellitus." Attendance, 300.

### *Second Day, June 14, 1922.*

The second day of the annual meeting was begun by demonstrations and papers in the departments of physiology and pharmacology at the Harvard Medical School, as set forth in the program in the June 8 number of the BOSTON MEDICAL AND SURGICAL JOURNAL and earlier in the official program, sent to all the fellows of the Society, the attendance at both being about 250. At 11.30 o'clock the Society gathered in the amphitheatre of Building C for the exercises of the one hundred and forty-first anniversary, 185 fellows and guests being present. The President, Dr. John W. Bartol of Boston, called the meeting to order; the Secretary read the minutes of the last meeting and they were approved. The Secretary read the following statement of the membership for the year closing on that day: Deaths, 37; resignations, 41; deprived of the privileges of fellowship, 12, making a total loss of 90. There had been restored to fellowship by the Council, 7; readmitted by the censors, 5, and new fellows, 171, making a total gain of 183 and a net gain of 93. Adding this to the total membership on June 1, 1921, 3933, the total membership on June 14, 1922, was 4026.

The following proposed amendment to Chapter IV, Section 3, of the By-Laws which had been approved by the Council, February 2, 1921, and had been referred to this meeting by the Society on June 1, 1921, was read by the Chair, who also explained its purport:

That Chapter IV, Section 3, of the By-Laws be so amended that the last sentence of paragraph one shall read: "Councilors only, shall be eligible to the offices above named," *viz.*, president, vice-president, secretary, treasurer and librarian, thus conforming the By-Laws to the Statutes, 1803, Chapter 85, Section 3, Digest, Article V, paragraph 3, which provides that the Councilors shall "appoint, from among themselves, a president, and such other officers of the said corporation as are to be so appointed."

Dr. F. B. Lund moved to adopt the amendment. The motion was seconded and so voted, there being no votes in the negative.

The President read an extract from the Proceedings of the Council of February 2, 1921, in which the Chairman of the Committee on Membership and Finance called attention to the terms of Chapter 15, Section 9, of the Statutes of 1781, now Article X of the Digest, whereby the amount of money the Society may receive from real and personal estate is limited to eight hundred pounds, the pound "to be valued in silver at six shillings and eight pence per ounce." He thought that such a sum was manifestly unsuited to the present requirements of the Society. He moved and it was voted by the Council to refer the matter to the Committee on State and National Legislation. That committee had reported to the Council yesterday, with the result that the following vote had been passed by that body:

*Voted*, That the Society be requested to appoint at the annual meeting a committee who shall petition the next General Court to enact an amendment of Chapter 15, Section 9, of the Statutes of 1781 so that said statute shall conform to the provisions of Chapter 180, Section 9, of the General Laws of Massachusetts, 1921, relating to charitable corporations, as regards the amount of property the Society may hold; the intention of this motion being that the proposed amendment shall be submitted for approval to the Council at its October meeting.

The Chair stated that a matter of this importance ought to have action by the Society and

that the Council should be asked its approval of any amendment that might be prepared by a committee to be appointed. He asked the Secretary to read Article X of the Digest and the following Section 9, of Chapter 180, of the General Laws of Massachusetts, 1921, having to do with corporations for charitable and certain other purposes:

"Section 9. Any corporation organized under general or special laws for any of the purposes mentioned in this chapter may hold real and personal estate to an amount not exceeding two million dollars, which shall be devoted to the purpose set forth in its charter or agreement of association, and it may receive and hold, in trust or otherwise, funds received by gift or bequest to be devoted by it to such purpose. This section shall not limit the amount of property which may be held by a corporation under the authority of any special law."

Dr. H. T. Hutchins made the following motion:

*Moved*, that a committee be appointed, consisting of the President and Secretary, who in conference with legal counsel shall prepare a petition to the next General Court for the enactment of an amendment to Chapter 15, Section 9, of the Statutes of 1781, to bring said section into conformity with Chapter 180, Section 9, of the General Laws of Massachusetts, 1921, relating to charitable corporations, such proposed amendment to be submitted to the Council at the October meeting for approval.

The motion, having been seconded, was passed by a unanimous vote.

Dr. F. B. Lund spoke of the proposed Gorgas Memorial Institute of Tropical and Preventive Medicine at Panama. After referring to the life, character and achievements of General Gorgas, he bespoke the interest of the medical profession in this international and humanitarian undertaking. He was followed by Dr. R. P. Strong on the same subject.

Dr. Albert Evans moved and it was *Voted*, That a committee of five be appointed by the Chair from the Fellows of the Massachusetts Medical Society to coöperate with the officers of the Gorgas Memorial Institute of Tropical and Preventive Medicine in helping raise the Gorgas Memorial Endowment Fund.

At 12.34 P. M., Dr. Kendall Emerson of Worcester delivered the annual discourse with the subject: "The International Mind in Medicine." On motion by Dr. H. O. Marcy, the thanks and appreciation of the Society were voted Dr. Emerson for his oration.

During the afternoon demonstrations were given in the departments of chemistry and hygiene at the school, with a good attendance, and in the evening the annual dinner was served in the ballroom of the Copley-Plaza Hotel to 530 fellows and their guests. The speakers were His Excellency Channing H. Cox, Governor of the Commonwealth; Hon. Thomas C. O'Brien, District Attorney for Suffolk County; Hon. Benjamin Loring Young, Speaker of the Massachusetts House of Representatives, and Samuel Williston, Dane Professor of Law in Harvard University. The President spoke of the lack of a clergyman, the Rev. W. L. Sperry being detained by illness, and to supply this lack he brought the exercises to a close with an address in which religion was adapted to present medical problems, taking as a text, Hebrews 4, 14, "Let us hold fast our profession." A detailed account of the speeches may be found in the BOSTON MEDICAL AND SURGICAL JOURNAL for June 22, 1922, pages 862-864.

Adjourned at 10.30 P. M.

WALTER L. BURRAGE,
*Secretary.*

ADMISSIONS REPORTED FROM JUNE 1, 1921, TO JUNE 14, 1922.

| Year of Admission. | Name. | Residence. | Medical College. |
|---|---|---|---|
| 1921 | Adams, Frank Dennette, | Boston | 11 |
| 1922 | Albert, Lionel Louis, | Central Falls, R. I.* | 12 |
| 1922 | Bacon, Gorham, | Barnstable | 30 |
| 1922 | Barstow, Carl Elijah, | Everett | 12 |
| 1922 | Bassett, Alice Haley, | Boston | 10 |
| 1921 | Baxter, Raymond Harding, | Marion | 17 |
| 1921 | Benedict, Mary Kendrick, | Arlington Heights | 6 |
| 1922 | Berkowitz, Arthur, | Roxbury | 12 |
| 1922 | Biddle, Stephen Mulford, | Cambridge | 12 |
| 1922 | Blackett, Charles Wesley, Jr., | West Newton | 11 |
| 1921 | Blackway, Charles Everett, | Fall River | 11 |
| 1922 | Bliss, William Everett, | Medford | 2 |
| 1922 | Bogusz-Wlazlo, Ladislaus, | Cambridge | 28 |
| 1921 | Boivin, Omer Emédeé, | Fall River | 32 |
| 1922 | Boland, Benedict Fenwick, | Boston | 12 |
| 1921 | Bouvé, Howard Allston, | Wakefield | 11 |
| 1921 | Bowman, Edward Francis, | Boston | 12 |
| 1921 | Braff, Max Mark, | East Boston | 10 |
| 1922 | Braverman, Aaron Harry, | Lowell | 12 |
| 1921 | Brown, Alfred Whittemore, | Spencer | 12 |
| 1921 | Brown, Fairy Potter Palmer, | Boston | 10 |
| 1922 | Buckman, Thomas Ellwood, | Boston | 11 |
| 1922 | Bunce, James Walter, | North Adams | 22 |
| 1921 | Burke, Mary Alice, | Springfield | 27 |
| 1921 | Byrnes, James Edmund, | Holyoke | 12 |
| 1921 | Cameron, Isabella Logan, | Boston | 10 |
| 1922 | Campbell, Kleber Alexander, | Hopedale | 1 |
| 1921 | Clare, Wendell Phillips, | Boston | 12 |
| 1921 | Clarke, Philip Henry, | Holyoke | 17 |
| 1921 | Clay, Charles Lancaster, | Lawrence | 17 |
| 1921 | Coates, Edward Augustus, Jr., | Winthrop* | 12 |
| 1921 | Cogan, Edith Ives, | Wakefield | 27 |
| 1922 | Comins, James Brooks, | Springfield | 21 |
| 1921 | Connell, Thomas Michael, | Walpole | 14 |
| 1922 | Corriden, Thomas Francis, | Northampton | 22 |
| 1922 | Cregg, Herbert Alexander, | Lawrence | 32 |
| 1921 | Crockett, Leon Wardwell, | Boston | 10 |
| 1921 | Currier, Donald Estes, | Brookline | 12 |
| 1922 | De Cicco, Luigi Marius, | Fitchburg | 22 |
| 1921 | Dobson, Clarence Henry, | Brookline | 21 |
| 1921 | Doherty, Gerald Leo, | Boston | 11 |
| 1922 | Downey, Hugh James, | Pittsfield | 8 |
| 1921 | Durgin, Lawrence Newton, | North Amherst | 20 |
| 1922 | Dwyer, Philip Roche, | Salem | 11 |
| 1922 | Edwards, Martin Russ, | Wayland | 11 |
| 1921 | Emery, Robert Lovett, | Winchester | 10 |
| 1922 | Favaloro, John, | Lowell | 12 |
| 1921 | Fielding, Bennett Irving, | South Boston | 12 |
| 1921 | Finkel, Henry Sumner, | Roxbury | 11 |
| 1921 | Fitchet, Seth Marshall, | Boston | 11 |
| 1921 | Foley, Joseph Daniel, | Springfield | 32 |
| 1921 | Fremont-Smith, Frank, Jr., | Boston | 11 |
| 1922 | Fulstow, Marjorie, | Boston | 12 |

| Year of Admission. | Name. | Residence. | Medical College. |
|---|---|---|---|
| 1922 | Galleani, Ilia, | Boston | 12 |
| 1922 | Garoyan, Gaspard, | Boston | 29 |
| 1921 | Gibson, David Howard, | South Boston | 12 |
| 1921 | Gillon, Charles Joseph Carroll, | Taunton | 11 |
| 1921 | Glickman, Alfred Myron, | South Boston | 12 |
| 1922 | Glickman, Hélène Sarah, | Springfield | 12 |
| 1922 | Gordon, George Korolick, | Malden | 12 |
| 1921 | Gordon, Louis, | Boston | 12 |
| 1921 | Guibord, Alberta Sylvia Boomhower, | Boston | 10 |
| 1921 | Guimarães, Abilio Santos, | Brookline | 31 |
| 1921 | Gustin, Genevieve, | Wrentham | 27 |
| 1921 | Hale, Herbert Francis, | Oxford | 5 |
| 1922 | Haley, Paul James Dodge, | Medford | 14 |
| 1921 | Hall, Francis Cooley, | Boston | 11 |
| 1921 | Ham, Helen Willard, | North Middleborough* | 12 |
| 1922 | Hamilton, Wallace Field, | Newton | 10 |
| 1922 | Hannaford, Charles William, | Portsmouth, N. H. | 12 |
| 1922 | Harrington, Elmer Joseph, | Holyoke | 12 |
| 1922 | Harrington, Winthrop Wendell, | Worcester | 11 |
| 1921 | Harris, Paul Leon, | Lowell | 12 |
| 1922 | Hawley, Ralph Ernest Dudley, | Lynn | 3 |
| 1922 | Healy, Harrison Thomas, | New Bedford | 32 |
| 1921 | Hogan, Charles Henry, Jr., | Salem | 12 |
| 1921 | Holman, Marguerite, | Cambridge | 10 |
| 1921 | Holmes, Colin McLean, | Springfield | 7 |
| 1921 | Howe, Byron Edward, | Adams | 30 |
| 1921 | Hymen, Max Harry, | Lowell | 12 |
| 1921 | Irwin, Vincent Joseph, Jr., | Springfield | 13 |
| 1921 | Johnson, Leighton Foster, | Norwood | 10 |
| 1921 | Jones, Stephen George, | Arlington | 11 |
| 1922 | Jordan, Sara Murray, | Worcester | 12 |
| 1922 | Kamberg, Samuel, | Boston | 12 |
| 1921 | Kaplan, Jacob Copel, | Dorchester | 12 |
| 1921 | Karcher, Edward Winslow, | Lynn | 33 |
| 1922 | Klein, Alvin Walter, | Stockbridge | 15 |
| 1921 | Knowlton, Florence Emerson Honey, | Worcester | 12 |
| 1922 | Knowlton, James Edward, | Quincy | 10 |
| 1921 | Kontoff, Henry Arthur, | Dorchester | 12 |
| 1921 | Korb, Harry, | Roxbury | 12 |
| 1922 | Kraus, Dorris Presson, | Framingham | 27 |
| 1922 | Laserson, Joseph, | Roxbury | 12 |
| 1922 | Littlehale, Roy Frederic, | Hanson | 12 |
| 1921 | Lynch, Frederick James, | Boston | 11 |
| 1921 | Lynch, James Joseph | Boston | 11 |
| 1921 | MacCarthy, Francis Hamilton, | Boston | 10 |
| 1921 | Macdonald, William Joseph, | Boston | 25 |
| 1921 | Manary, James Wescott, | Boston | 25 |
| 1922 | Marble, Howard Bennett, | Shelburne Falls | 11 |
| 1921 | Marchand, Eleanore Marguerite, | Boston Harbor | 12 |
| 1921 | Marchand, Jean Charles, | Salem | 12 |
| 1921 | Maxwell, Charles James, | Hinsdale | 8 |
| 1922 | McCormick, William Aloysius, | New Bedford | 12 |
| 1922 | McDonald, Harry Leo, | Malden | 12 |
| 1921 | McDonald, William James, | Boston | 12 |
| 1921 | McLaughlin, Joseph Henry, | South Boston | 12 |
| 1921 | McNamara, John Ignatius, | Taunton | 12 |
| 1922 | McSweeney, Joseph Henry, | Somerville | 12 |
| 1921 | Mezer, Joseph Henry, | Boston | 12 |
| 1922 | Monette, Camille Joseph, | Taunton | 22 |
| 1921 | Morrison, William Henry, | Brockton | 8 |
| 1922 | Moses, Alvin Raymond, | Worcester | 12 |
| 1922 | Nichols, Alvord Gates, | Worcester | 11 |
| 1922 | Nichols, Andrew, 3d, | Hathorne | 11 |
| 1921 | Ober, Herbert Carroll, | Cambridge | 10 |
| 1921 | O'Brien, Francis Edward, | Haydenville | 16 |
| 1922 | O'Brien, Thomas Francis, | Worcester | 11 |
| 1921 | Odian, Missak Garabed, | Dorchester | 11 |
| 1921 | Outhouse, John Stanley, | Shelburne Falls | 24 |
| 1921 | Parker, George Leonard, | Clinton | 12 |
| 1922 | Paul, Frederick Henry, Jr., | Newton | 12 |
| 1921 | Peck, Martin William, | Boston* | 11 |
| 1921 | Perkins, George Edward, | Boston | 18 |
| 1922 | Peterson, Carl Adrian, | Worcester | 12 |
| 1921 | Ratté, Arthur Andrew, | Haverhill | 12 |
| 1922 | Rice, Kenneth Harrison, | Worcester | 22 |
| 1921 | Robbins, Herman, | Roxbury | 12 |
| 1921 | Rooney, John Francis, | Worcester | 4 |
| 1922 | Root, Howard Frank, | Roxbury | 11 |
| 1922 | Royal, Kent Tyler, | North Brookfield | 11 |
| 1921 | Sachs, Benjamin, | Beverly | 12 |
| 1921 | Sawyer, Howard Pierce, | Fall River | 13 |
| 1921 | Schall, LeRoy Allen, | Boston | 20 |
| 1921 | Schloss, Oscar Menderson, | Boston | 6 |
| 1921 | Segal, Joseph Nathaniel, | Boston | 12 |
| 1921 | Segal, Louis, | Revere | 12 |
| 1922 | Sharp, Benjamin Samuel, | Boston | 12 |
| 1922 | Shay, Edward Francis, | Boston | 12 |
| 1921 | Shea, Andrew Francis, | Lawrence | 4 |
| 1922 | Shubert, Julius, | Boston | 12 |
| 1921 | Shukle, Revashanker Maganlal, | Boston | 11 |
| 1921 | Silberg, Morris Abraham, | Boston | 12 |
| 1921 | Small, Ernest Winfield, | Belmont | 11 |
| 1921 | Smith, Richard Ilsley, | Boston | 11 |
| 1921 | Spellman, Martin Henry, | Roslindale | 4 |
| 1921 | Stearns, Charles Maxwell, | Chelsea | 12 |
| 1922 | Sterns, Albert Henry, | New Bedford | 12 |
| 1921 | Stone, Moses Jacob, | Dorchester | 12 |
| 1921 | Story, Theodore LeRoy, | Allston | 12 |
| 1921 | Sturgis, Cyrus Cressey, | Boston | 6 |
| 1921 | Suffa, George Alson, | Boston | 21 |
| 1921 | Sylvester, Ira Emery, | Somerville | 33 |
| 1921 | Sziklas, Charles, | Boston | 11 |
| 1922 | Tartakoff, Samuel, | Taunton | 12 |
| 1922 | Tashian, Hovnan Nazaret, | Cambridge | 12 |
| 1922 | Taylor, Jay Richard, | Fairhaven | 19 |
| 1922 | Thomas, Abraham Fifield, | Newburyport | 26 |
| 1922 | Thompson, John James, | Taunton | 9 |
| 1921 | Thorndike, Augustus, Jr., | Boston | 11 |
| 1921 | Thurman, Aaron, | Dorchester | 11 |
| 1922 | Toppan, Albert Brookings, | Watertown* | 12 |
| 1921 | Townsend, James Harvey, | Boston | 11 |
| 1921 | Vogel, George Louis, | Boston | 11 |
| 1922 | Webber, Isaac Mervyn, | Worcester | 5 |
| 1921 | Wesselhoeft, Conrad, | Boston | 11 |
| 1921 | Weyher, Russell Frank, | Boston Harbor | 23 |
| 1921 | Weymouth, Currier Clyde, | Medway | 12 |
| 1922 | Wight, Freeman Clark, | Boston | 12 |
| 1922 | Williams, Hubert Joseph, | Boston | 12 |
| 1922 | Wolfson, Louis Elijah, | Boston | 12 |
| 1922 | Worcester, George Franklin, | Haverhill | 10 |
| 1921 | Wright, Mary, | Newton Centre | 6 |
| 1922 | Zelig, David, | Boston | 12 |
| 1921 | Zundell, Samuel Charles, | Boston | 12 |

*Readmitted by the Censors.
Total, 171 + 5 = 176.

KEY TO MEDICAL COLLEGES.

1 Albany Medical College.
2 University of Illinois College of Medicine.
3 University of Michigan Medical School.
4 Georgetown University School of Medicine.
5 Bowdoin Medical School.
6 Johns Hopkins University Medical Department.
7 College of Physicians and Surgeons of Baltimore.
8 Baltimore Medical College.
9 University of Toronto Faculty of Medicine.
10 Boston University School of Medicine.
11 Medical School of Harvard University.
12 Tufts College Medical School.
13 Yale University School of Medicine.
14 Dartmouth Medical School.
15 University of Cincinnati College of Medicine.
16 Fordham University School of Medicine.
17 Columbia University College of Physicians and Surgeons.
18 Georgia College of Eclectic Medicine and Surgery (Action of Com. on Med. Educn. and Med. Dips.)
19 University of Pennsylvania School of Medicine.
20 Jefferson Medical College of Philadelphia.
21 Hahnemann Medical College of Philadelphia.
22 University of Vermont College of Medicine.

23 Detroit College of Medicine and Surgery.
24 McGill University Faculty of Medicine, Quebec.
25 University of Sydney, Australia.
26 Chicago College of Medicine and Surgery.
(Action of Com. on Med. Educa. and Med. Dips.)
27 Woman's Medical College of Pennsylvania.
28 Medico-Chirurgical College of Philadelphia.
29 University of St. Joseph, Beirut, Syria.
30 University and Bellevue Hospital Medical College, New York.
31 Emory University School of Medicine, Georgia.
32 University of Maryland School of Medicine.
33 Middlesex College of Medicine and Surgery.
(Action of Com. on Med. Educa. and Med. Dips.)

## DEATHS REPORTED FROM JUNE 1, 1921, TO JUNE 14, 1922.

| Admitted. | Name. | Place of Death. | Date of Death. | Age. |
|---|---|---|---|---|
| 1903 | Abbot, Florence Hale | Boston | Aug. 1, 1921 | 53 |
| 1879 | †Battershall, Joseph Ward | Attleborough | Feb. 23, 1922 | 79 |
| 1909 | Berry, William Christopher | Roxbury | Feb. 8, 1922 | 64 |
| 1888 | Blake, Harrison Gray | Woburn | Jan. 26, 1922 | 58 |
| 1909 | Brearton, Edward John | Dorchester | Apr. 15, 1922 | 44 |
| 1893 | Brough, David Dandie | Boston | July 31, 1921 | 55 |
| 1888 | Chandler, Norman Fitch | Medford | Mar. 6, 1922 | 62 |
| 1873 | Channing, Walter | Brookline | Nov. 23, 1921 | 72 |
| 1915 | Constans, Frank Elmore | Brockton | May 29, 1922 | 55 |
| 1881 | Croston, John Francis | Haverhill | July 30, 1921 | 66 |
| 1882 | Dyer, Ebenezer Alden | Whitman | Aug. 5, 1921 | 64 |
| 1875 | Fay, James Monroe | Northampton | July 26, 1921 | 78 |
| 1894 | Farrington, Leander Morton | Manchester, N. H. | Dec. 10, 1921 | 48 |
| 1893 | Flynn, John Joseph | Pittsfield | Nov. 13, 1921 | 60 |
| 1901 | Forster, Robert William | Lawrence | Feb. 7, 1922 | 46 |
| 1893 | Gallivan, William Joseph | South Boston | July 13, 1921 | 56 |
| 1875 | †Garland, Albert Stone | Gloucester | Nov. 28, 1921 | 81 |
| 1868 | †Green, John Orne | Boston | Jan. 5, 1922 | 80 |
| 1881 | †Greenwood, Sewell Elliott | Templeton | Feb. 5, 1922 | 68 |
| 1895 | Hanley, John Joseph | Motherwell, Scotland | July 26, 1921 | 54 |
| 1905 | Le Gro, Lester Burnside | Bradford | Aug. 18, 1921 | 55 |
| 1912 | Leeper, Marion Eleanor | Springfield | April 20, 1922 | 40 |
| 1901 | Marcy, Henry Orlando, Jr. | Newton | May 29, 1922 | 50 |
| 1903 | McGaurin, George Daniel | Newburyport | June 15, 1921 | 70 |
| 1890 | Nichols, Edward Hall | Boston | June 12, 1922 | 58 |
| 1907 | O'Leary, Joseph Augustus | Wakefield | Sept. 21, 1921 | 59 |
| 1876 | Oviatt, George Alexander | Waltham | Feb. 26, 1922 | 72 |
| 1898 | Potts, Joseph Henry | Holyoke | June 16, 1921 | 62 |
| 1900 | Riley, Elizabeth Angela | Boston | Oct. 27, 1921 | 53 |
| 1912 | Rockwell, Lucy Wetherbee | Worcester | Dec. 18, 1921 | 45 |
| 1897 | Rowley, William | Lanesville | Jan. 29, 1922 | 57 |
| 1860 | Sprague, Francis Peleg | Boston | Oct. 6, 1921 | 87 |
| 1871 | †Stedman, George | Boston | Aug. 16, 1921 | 71 |
| 1865 | †Swan, Charles Walter | Branford, Conn. | Dec. 1, 1921 | 83 |
| 1880 | West, Edward Graeff | Roxbury | June 10, 1922 | 67 |
| 1898 | Williams, Abram Case | Springfield | Oct. 25, 1919 | 50 |
| 1887 | Williams, Henry Clarence | Boston | Nov. 8, 1921 | 66 |

†Indicates Retired Fellow.

Total deaths, 37.

## OFFICERS OF THE MASSACHUSETTS MEDICAL SOCIETY ELECTED JUNE 13, 1922.

*President*: John W. Bartol, 3 Chestnut Street, Boston.
*Vice-President*: Charles E. Mongan,
24 Central Street, Somerville.
*Secretary*: Walter L. Burrage,
42 Eliot Street, Jamaica Plain
*Treasurer*: Arthur K. Stone,
Auburn Street, Framingham Center.
*Librarian*: Edwin H. Brigham,
8 The Fenway, Boston.

### STANDING COMMITTEES FOR 1922-1923.

ON ARRANGEMENTS
K. G. Percy, F. J. Callanan, Dwight O'Hara, J. C. Rock, L. S. McKittrick, W. T. S. Thorndike.

ON PUBLICATIONS AND SCIENTIFIC PAPERS
E. W. Taylor, R. B. Osgood, F. T. Lord, R. M. Green, A. C. Getchell.

ON MEMBERSHIP AND FINANCE
D. N. Blakely, A. Coolidge, Jr., Samuel Crowell, Gilman Osgood, Homer Gage.

ON ETHICS AND DISCIPLINE
Henry Jackson, T. J. Robinson, David Cheever, F. W. Anthony, W. D. Ruston.

ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS
C. F. Painter, J. F. Burnham, A. G. Howard, R. L. De Normandie, H. P. Stevens.

ON STATE AND NATIONAL LEGISLATION
J. W. Bartol, E. H. Stevens, F. E. Jones, J. S. Stone, T. J. O'Brien.

ON PUBLIC HEALTH
E. H. Bigelow, Annie L. Hamilton, E. F. Cody, Victor Safford, R. I. Lee.

## PRESIDENTS OF DISTRICT MEDICAL SOCIETIES.

### Vice-Presidents (*Ex-officiis*).

Arranged according to seniority of fellowship in the Massachusetts Medical Society.

E. H. Bigelow ..... Middlesex South
F. W. Baldwin ..... Essex South
T. F. Carroll ..... Middlesex North
J. S. Stone ..... Suffolk
A. L. Beals ..... Plymouth
W. J. Walton ..... Norfolk
L. F. Baker ..... Worcester North
W. J. Collins ..... Hampshire
F. D. McAllister ..... Essex North
G. E. Emery ..... Worcester
H. C. Allen ..... Bristol South

Sumner Coolidge.....Bristol North
M. B. Hodskins.....Hampden
C. E. Ordway.....Middlesex East
F. E. Jones.....Norfolk South
G. H. Thompson.....Berkshire
H. D. Handy.....Barnstable

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## COUNCILORS 1922-1923.

ELECTED BY THE DISTRICT MEDICAL SOCIETIES AT THEIR ANNUAL MEETINGS, APRIL 15 TO MAY 15, 1922, AND THOSE WHO ARE COUNCILORS UNDER THE TERMS OF THE BY-LAWS.

NOTE.—The initials M.N.C., following the name of a councilor, indicate that he is a member of the Nominating Committee. V.P. indicates that a member is a councilor by virtue of his office as president of a district society, and so vice-president of the general society. C. indicates that he is chairman of a Standing Committee. Ex-P. indicates ex-president.

BARNSTABLE,
H. D. Handy, Harwich, V.P.
W. D. Kinney, Osterville, M.N.C.
E. S. Osborne, West Dennis.

BERKSHIRE,
G. H. Thompson, North Adams, V.P.
Henry Colt, Pittsfield.
A. P. Merrill, Pittsfield.
B. W. Paddock, Pittsfield.
P. J. Sullivan, Dalton, M.N.C.

BRISTOL NORTH,
Sumner Coolidge, Middleborough, V.P.
W. H. Allen, Mansfield.
J. B. Gerould, North Attleborough.
F. A. Hubbard, Taunton, M.N.C.

BRISTOL SOUTH,
H. C. Allen, New Bedford, V.P.
A. W. Buck, Fall River.
E. F. Cody, New Bedford.
A. B. Cushman, South Dartmouth.
W. A. Dolan, Fall River.
R. W. Jackson, Fall River, M.N.C.
A. H. Mandell, New Bedford.
J. C. Pothier, New Bedford.

ESSEX NORTH,
F. D. McAllister, Lawrence, V.P.
R. V. Baketel, Methuen.
C. S. Benson, Haverhill.
J. Forrest Burnham, Lawrence.
W. W. Ferrin, Haverhill.
T. R. Healy, Newburyport, M.N.C.
A. M. Hubbell, Haverhill.
G. E. Kurth, Lawrence.
C. W. Still, Haverhill.

ESSEX SOUTH,
F. W. Baldwin, Danvers, V.P.
J. F. Donaldson, Salem.
H. K. Foster, Peabody.
Loring Grimes, Swampscott.
W. T. Hopkins, Lynn.
P. P. Johnson, Beverly, M.N.C.
J. F. Jordan, Peabody.
G. M. Kline, Beverly.
S. W. Mooring, Gloucester.
W. G. Phippen, Salem.
A. N. Sargent, Salem.
J. W. Trask, Lynn.

FRANKLIN,
H. A. Suitor, South Deerfield, V.P.
B. P. Croft, Greenfield.
G. P. Twitchell, Greenfield, M.N.C.

HAMPDEN,
M. B. Hodskins, Palmer, V.P.
E. P. Bagg, Jr., Holyoke, M.N.C.
J. H. Celce, Holyoke.
F. A. Dexter, Springfield.
E. C. Dubois, Springfield.
A. C. Eastman, Springfield.
G. L. Gabler, Holyoke.
J. H. C. Gallagher, Chicopee Falls.
D. E. Harriman, Springfield.
G. H. Janes, Westfield.
Philip Kilroy, Springfield.
E. A. Knowlton, Holyoke.
J. J. McCabe, Holyoke.
A. G. Rice, Springfield.
J. P. Schneider, Palmer.

HAMPSHIRE,
W. J. Collins, Northampton, V.P.
A. J. Bonneville, Hatfield.
C. T. Cobb, Northampton, M.N.C.
F. E. Dow, Northampton.
A. G. Minshall, Northampton.

MIDDLESEX EAST,
C. E. Ordway, Winchester, V.P.
L. M. Crosby, Wakefield.
G. F. Dow, Reading, M.N.C.
W. H. Keleher, Woburn.
Ralph Putnam, Winchester.

MIDDLESEX NORTH,
T. F. Carroll, Lowell, V.P.
W. B. Jackson, Lowell.
J. H. Lambert, Lowell.
G. A. Leahey, Lowell.
J. A. Mehan, Lowell.
M. A. Tighe, Lowell.
E. J. Welch, Lowell, M.N.C.

MIDDLESEX SOUTH,
E. H. Bigelow, Framingham, V.P. and C.
E. A. Andrews, Newton Center.
E. W. Barron, Malden.
C. O. Chase, Watertown.
F. G. Curtis, Chestnut Hill.
J. E. Dodd, Framingham.
John Duff, Charlestown.
W. E. Fernald, Waverley.
C. B. Fuller, Waltham.
G. W. Gay, Chestnut Hill, Ex-P.
F. J. Goodridge, Cambridge.
L. S. Hapgood, Cambridge.
C. E. Hills, Natick.
L. H. Jack, West Newton.
F. R. Jouett, Cambridge.
H. J. Keaney, Everett.
S. F. McKeen, Allston.
C. E. Mongan, Somerville, Vice-Pres.
C. F. Painter, Newton, C.
W. A. Putnam, Belmont.
H. S. Rowen, Brighton.
W. D. Ruston, Somerville.
J. W. Sever, Cambridge.
F. G. Smith, Somerville.
C. H. Staples, Malden.
E. H. Stevens, Cambridge, M.N.C.
A. K. Stone, Framingham Center, Treasurer.
Fresenius Van Nuys, Weston.
H. P. Walcott, Cambridge, Ex-P.
H. R. Webb, Arlington.
G. L. West, Newton Center.
G. W. W. Whiting, Somerville.
W. S. Whittemore, Cambridge.
Alfred Worcester, Waltham, Ex-P.

NORFOLK,
W. J. Walton, Dorchester, V.P.
C. E. Allard, Dorchester.
W. B. Batchelder, Dorchester.
E. H. Baxter, Hyde Park.
D. N. Blakely, Brookline, M.N.C.
E. H. Brigham, Brookline, Lib. Emer.
J. P. Broderick, Jamaica Plain.
A. N. Broughton, Jamaica Plain.
W. L. Burrage, Jamaica Plain, Secretary
J. A. Ceconi, Dorchester.
D. G. Eldridge, Dorchester.
T. F. Greene, Roxbury.
W. H. Greene, Roxbury.
W. A. Griffin, Sharon.
R. W. Hastings, Brookline.
F. C. Jillson, Jamaica Plain.
G. W. Kaan, Brookline.
W. B. Keeler, Roxbury.
Bradford Kent, Dorchester.
K. G. Percy, Brookline, C.
M. V. Pierce, Milton.
H. H. Powers, Brookline.
Victor Safford, Jamaica Plain.
G. H. Scott, Roxbury.
C. F. Stack, Hyde Park.
Max Sturnick, Roxbury.
Augusta Williams, Brookline.
G. W. Winchester, Mattapan.

NORFOLK SOUTH,
F. E. Jones, Quincy, V.P.
C. S. Adams, Wollaston.
O. H. Howe, Cohasset.
G. H. Ryder, Quincy, M.N.C.
G. M. Sheahan, Quincy.

PLYMOUTH,
A. L. Beals, Brockton, V.P.
W. C. Keith, Brockton.
N. K. Noyes, Duxbury.
Gilman Osgood, Rockland.
F. J. Ripley, Brockton.
F. G. Wheatley, North Abington, M.N.C.

SUFFOLK,
J. S. Stone, Boston, V.P.
J. L. Ames, Boston.
S. H. Ayer, Boston.
J. W. Bartol, Boston, President.
V. Y. Bowditch, Boston.
Robert Bonney, East Boston.
J. T. Bottomley, Boston.
E. G. Brackett, Boston.
J. E. Briggs, Boston.
M. E. Champion, Boston.
L. J. Cummins, Boston,
Lincoln Davis, Boston.
W. H. Devine, South Boston.
G. B. Fenwick, Chelsea.
Channing Frothingham, Jr., Boston.
J. E. Goldthwait, Boston.
G. S. Hill, Boston.
W. C. Howe, Boston, M.N.C.
J. C. Hubbard, Boston.
H. T. Hutchins, Boston.
Henry Jackson, Boston, C.
D. F. Jones, Boston.
E. A. Locke, Boston.
F. T. Lord, Boston.
F. B. Lund, Boston.
Donald Macomber, Boston.
G. B. Magrath, Boston.
B. H. Metcalf, Winthrop.
R. H. Miller, Boston.
J. J. Minot, Boston.
E. H. Place, Boston.

SUFFOLK (*continued*),
B. W. Pond, Boston.
Alexander Quackenboss, Boston.
Edward Reynolds, Boston.
W. H. Robey, Jr., Boston.
Stephen Rushmore, Boston.
D. D. Scannell, Boston.
C. L. Scudder, Boston.
G. B. Shattuck, Boston, Ex-P.
C. M. Smith, Boston.
E. W. Taylor, Boston, C.
L. P. Tingley, Boston.
F. H. Williams, Boston.

WORCESTER,
G. E. Emery, Worcester, V.P.
F. H. Baker, Worcester.
W. P. Bowers, Clinton, Ex-P.
L. R. Bragg, Webster.
W. J. Delahanty, Worcester.
G. A. Dix, Worcester.
M. F. Fallon, Worcester.
Homer Gage, Worcester.
J. J. Goodwin, Clinton.
R. W. Greene, Worcester.
David Harrower, Worcester, M.N.C.
E. L. Hunt, Worcester.
A. G. Hurd, Millbury.
A. W. Marsh, Worcester.
L. C. Miller, Worcester.
C. B. Stevens, Worcester.
G. O. Ward, Worcester.
F. H. Washburn, Holden.
S. B. Woodward, Worcester, Ex-P.

WORCESTER NORTH,
L. F. Baker, Fitchburg, V.P.
W. E. Currier, Leominster.
J. G. Henry, Winchendon.
H. R. Nye, Leominster, M.N.C.
A. H. Quessy, Fitchburg.

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## CENSORS, 1922-1923.

BARNSTABLE
W. D. Kinney, *Supervisor.*
J. P. Nickerson, West Harwich.
E. E. Hawes, Hyannis.
C. E. Harris, Hyannis.
E. S. Osborne, West Dennis.

BERKSHIRE
Henry Colt, Pittsfield, *Supervisor.*
M. M. Brown, North Adams.
A. C. England, Pittsfield.
H. E. Stockwell, Stockbridge.
Nathan Finkelstein, Pittsfield.

BRISTOL NORTH
F. A. Hubbard, Taunton, *Supervisor.*
H. B. Baker, Taunton.
T. F. Clark, Taunton.
A. R. Crandell, Taunton.
T. J. Robinson, Taunton.

BRISTOL SOUTH
W. A. Dolan, Fall River, *Supervisor.*
R. W. French, Fall River.
C. J. Leary, New Bedford.
S. V. Merritt, Fall River.
I. N. Tilden, Mattapoisett.

ESSEX NORTH
R. V. Baketel, Methuen, *Supervisor*
J. E. Bryant, Haverhill.
R. C. Hurd, Newburyport.
F. E. Smith, North Andover.
E. P. Laskey, Haverhill.

ESSEX SOUTH
J. F. Donaldson, Salem, *Superior.*
C. L. Curtis, Salem.
A. T. Hawes, Lynn.
R. E. Foss, Peabody.
H. P. Bennett, Swampscott.

FRANKLIN
B. P. Croft, Greenfield, *Supervisor.*
C. L. Upton, Shelburne Falls.
J. W. Cram, Colrain.
H. N. Howe, Greenfield.
C. F. Canedy, Greenfield.

HAMPDEN
A. C. Eastman, Springfield, *Supervisor.*
G. D. Henderson, Holyoke.
F. L. Everett, Springfield.
J. J. Carroll, Holyoke.
F. T. Clark, Westfield.

HAMPSHIRE
A. J. Bonneville, Hatfield, *Supervisor.*
F. H. Smith, Hadley.
H. G. Rockwell, Amherst.
J. D. Collins, Northampton.
E. W. Whitney, Northampton.

MIDDLESEX EAST
Ralph Putnam, Winchester, *Supervisor.*
H. A. Gale, Winchester.
F. O. West, Woburn.
E. S. Jack, Melrose.
F. T. Woodbury, Wakefield.

MIDDLESEX NORTH
J. H. Lambert, Lowell, *Supervisor.*
E. J. Clark, Lowell.
G. A. Lavalee, Lowell.
J. A. Gage, Tyngsborough.
J. P. McAdams, Lowell.

MIDDLESEX SOUTH
C. B. Fuller, Waltham, *Supervisor.*
I. J. Fisher, West Newton.
James Glass, Framingham.
J. P. Nelligan, Cambridge.
H. E. Buffum, Somerville.

NORFOLK
C. F. Stack, Hyde Park, *Supervisor.*
E. T. Rollins, Jamaica Plain.
T. J. Murphy, Roxbury.
G. G. Bulfinch, Brookline.
A. A. MacDonald, Dorchester.

NORFOLK SOUTH
G. M. Sheahan, Quincy, *Supervisor.*
F. W. Crawford, Holbrook.
A. J. Roach, Braintree.
W. G. Curtis, Wollaston.
F. R. Burke, Quincy.

PLYMOUTH
F. J. Ripley, Brockton, *Supervisor.*
J. H. Drohan, Brockton.
E. J. Beaulieu, Whitman.
W. W. Fullerton, Brockton.
L. B. Reed, Plymouth.

SUFFOLK
G. B. Fenwick, Chelsea, *Supervisor.*
T. J. O'Brien, Boston.
R. H. Vose, Boston.
G. A. Leland, Jr., Boston.
F. H. Lahey, Boston.

WORCESTER
F. H. Washburn, Holden, *Supervisor.*
E. H. Mackay, Clinton.
C. A. Sparrow, Worcester.
E. H. Trowbridge, Worcester.
J. J. Cummings, Worcester.

WORCESTER NORTH
A. H. Quessy, Fitchburg, *Supervisor.*
G. P. Norton, Fitchburg.
C. E. Woods, Lunenburg.
C. S. Brigham, Leominster.
T. R. Donovan, Fitchburg.

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## COMMISSIONERS OF TRIALS, 1922-1923.

BARNSTABLE, E. S. Osborne, West Dennis.
BERKSHIRE, F. C. Downing, Stockbridge.
BRISTOL NORTH, C. S. Holden, Attleborough.
BRISTOL SOUTH, D. P. O'Brien, New Bedford.
ESSEX NORTH, I. J. Clarke, Haverhill
ESSEX SOUTH, J. E. Simpson, Salem.
FRANKLIN, P. F. Leary, Turners Falls.
HAMPDEN, F. B. Sweet, Springfield.
HAMPSHIRE, M. E. Cooney, Northampton.
MIDDLESEX EAST, E. C. Fish, Melrose.
MIDDLESEX NORTH, F. E. Varney, North Chelmsford.
MIDDLESEX SOUTH, A. W. Griffin, Malden.
NORFOLK, M. V. Pierce, Milton.
NORFOLK SOUTH, N. S. Hunting, Quincy.
PLYMOUTH, Gilman Osgood, Rockland.
SUFFOLK, Channing Frothingham, Jr., Boston.
WORCESTER, W. P. Bowers, Clinton.
WORCESTER NORTH, C. H. Bailey, Gardner.

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## OFFICERS OF THE DISTRICT MEDICAL SOCIETIES.

Elected by the District Medical Societies Between April 15 and May 15, 1922.

BARNSTABLE.—H. D. Handy, Harwich, *President;* E. F. Curry, Sagamore, *Vice-President;* P. P. Henson, South Yarmouth, *Secretary;* H. B. Hart, Yarmouthport, *Treasurer;* E. E. Hawes, Hyannis, *Librarian.*

BERKSHIRE.—G. H. Thompson, North Adams, *President;* J. A. Sullivan, Pittsfield, *Vice-President;* A. P. Merrill, Pittsfield, *Secretary;* C. T. Leslie, Pittsfield, *Treasurer.*

BRISTOL NORTH.—Sumner Coolidge, Middleborough, *President;* W. O. Hewitt, Attleborough, *Vice-President;* A. R. Crandell, Taunton, *Secretary;* R. D. Dean, Taunton, *Treasurer.*

BRISTOL SOUTH.—H. C. Allen, New Bedford, *President;* R. P. Butler, Fall River, *Vice-President;* A. J. Abbe, Fall River, *Secretary* and *Treasurer.*

ESSEX NORTH.—F. D. McAllister, Lawrence, *President;* J. J. Bartley, Lawrence, *Vice-President;* J. Forrest Burnham, Lawrence, *Secretary;* E. H. Ganley, Methuen, *Treasurer.*

ESSEX SOUTH.—F. W. Baldwin, Danvers, *President;* J. A. Shatswell, Beverly, *Vice-President;* R. E. Stone, Beverly, *Secretary;* G. Z. Goodell, Salem, *Treasurer;* C. M. Cobb, Lynn, *Librarian.*

FRANKLIN.—H. A. Suitor, South Deerfield, *President;* F. A. Millett, Greenfield, *Vice-President;* Charles Moline, Sunderland, *Secretary* and *Treasurer.*

HAMPDEN.—M. B. Hodskins, Palmer, *President;* R. S. Benner, Springfield, *Vice-President;* H. L. Smith, Springfield, *Secretary* and *Treasurer.*

HAMPSHIRE.—W. J. Collins, Northampton, *President;* J. E. Hayes, Northampton, *Vice-President;* E. E. Thomas, Northampton, *Secretary* and *Treasurer;* L. O. Whitman, Northampton, *Librarian.*

MIDDLESEX EAST.—C. E. Ordway, Winchester, *President;* Robert Chalmers, Woburn, *Vice-President;* A. E. Small, Melrose, *Secretary;* Richard Dutton, Wakefield, *Treasurer;* G. W. Nickerson, Stoneham, *Librarian.*

MIDDLESEX NORTH.—T. F. Carroll, Lowell, *President;* J. B. O'Connor, Lowell, *Vice-President;* T. A. Stamas, Lowell, *Secretary;* T. B. Smith, Lowell, *Treasurer;* P. J. Meehan, Lowell, *Librarian.*

MIDDLESEX SOUTH.—*E. H. Bigelow,* Framingham, *President;* E. A. Darling, Cambridge, *Vice-President;* F. B. M. Cady, Cambridge, *Secretary;* Edward Mellus, Newton, *Treasurer.*

NORFOLK.—W. J. Walton, Dorchester, *President;* W. W. Howell, West Roxbury, *Vice-President;* Bradford Kent, Dorchester, *Secretary;* G. W. Kaan, Brookline, *Treasurer.*

NORFOLK SOUTH.—F. E. Jones, Quincy, *President;* C. A. Sullivan, South Braintree, *Vice-President;* R. M. Ash, Quincy, *Secretary, Treasurer* and *Librarian.*

PLYMOUTH.—A. L. Beals, Brockton, *President;* F. H. Burnett, Brockton, *Vice-President;* W. C. Keith, Brockton, *Secretary, Treasurer* and *Librarian.*

SUFFOLK.—J. S. Stone, Boston, *President;* C. M. Smith, Boston, *Vice-President;* R. H. Miller, Boston, *Secretary;* D. J. Bristol, Jr., Boston, *Treasurer;* E. C. Streeter, Boston, *Librarian.*

WORCESTER.—G. E. Emery, Worcester, *President;* A. W. Marsh, Worcester, *Vice-President;* A. W. Atwood, Worcester, *Secretary;* G. O. Ward, Worcester, *Treasurer;* A. C. Getchell, Worcester, *Librarian.*

WORCESTER NORTH.—L. F. Baker, Fitchburg, *President;* F. M. McMurray, Fitchburg, *Vice-President;* C. H. Jennings, Fitchburg, *Secretary;* F. H. Thompson, Jr., Fitchburg, *Treasurer.*

## Book Reviews.

*The Vitamins.* By H. C. SHERMAN and S. L. SMITH. 273 pp. New York: Chemical Catalog Co. 1922.

This volume, which is one of the American Chemical Society monographs, is probably the best and most impartial summary of the knowledge of vitamins which has appeared. The subject is discussed in the conventional manner: an historical introduction; the antineuritic vitamin (water-soluble B); the antiscorbutic vitamin (vitamin C); the fat-soluble vitamin (vitamin A); a chapter on "Vitamins in the Problem of Food Supply," and a bibliography of about a thousand titles.

In discussing the three recognized vitamins, the authors follow a uniform plan, summarizing, in order, the evidence of the existence of the vitamin; its occurrence in foods; its physiological and, so far as they are known, its physical and chemical properties. Elaborate tables are given showing the occurrence and the relative abundance of the vitamins in all of the common foods: milk, grains, meats, vegetables, etc.

This summary of present knowledge brings out forcibly the unsatisfactory state of the entire subject: while an immense amount of work has been done on the distribution of the vitamins, very little has been accomplished in determining what they are or how they act.

The authors remark in the preface that it is hoped that the present work may do something to show the true significance of the vitamins and to avoid exaggerated impressions, and, to the latter end, suggest that the nontechnical reader read the last chapter ("Vitamins in the Problem of Food Supply") first. In this chapter it is stated: "Even with our present knowledge we believe it safe to say that with a dietary selected to make the best use of our ordinary staple foods there will rarely, if ever, be occasion to purchase vitamins in any other form, or to give any greater anxiety to the vitamins than to some other factors which enter into our present conception of nutritive requirements and food values." The essentials of an adequate food supply are briefly enumerated: "Sufficient amounts of digestible organic nutrients to yield the necessary number of calories of energy; enough protein of suitable sorts; adequate amounts and suitable proportions of a number of mineral or inorganic elements: and enough of each of at least three kinds of food hormones or vitamins."

Although there may be no pressing practical need for isolated vitamins, and although it is quite probable that other deficiencies in our diet are of equal or greater importance, the scientific mind will not be satisfied until the nature of these mysterious elements and their method of action are known; in fact, such knowledge is a prerequisite to a really intelligent system of dietetics.

*Arterial Sclerosis.* By LOUIS FAUGERES BISHOP, Oxford Medical Publications. London.

This readable book is the exposition of the author's theory of the cause of arterial sclerosis and its logical treatment. Fortunately the theory is not arguable. There is little definite proof to support it and equally little to controvert it. Therefore the author is not obliged to occupy much of the reader's time in defense of his theory,—a procedure which is seldom profitable,—and is free to discuss at length the results of treatment by his method, so that there is much of practical value in the book.

Bishop believes that arterial sclerosis is due to low-grade protein sensitization, and that the treatment consists essentially in a diet containing few kinds of protein, but not necessarily greatly restricted in amount of protein. Such a diet would certainly be better for most arterio scleroties than the "protein free diet" still used by many. The author believes that the best form in which to give protein is as cheese or vegetables. His chapter on cheese is interesting and enlightening.

The main value of the book, however, is that it contains a great deal of careful clinical observation and much advice concerning the details which make up so large a part of the treatment of the patient with hard arteries. Whether the theory presented can be definitley proven or not, the book is worth while because it brings home the fact that the sucessful treatment of arterial sclerosis is composed of moderation and such optimism as can be honestly exhibited.

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*Nutrition and Growth in Children.* By WILLIAM R. P. EMERSON. New York: D. Appleton & Co.

Dr. Emerson has made a very interesting contribution to a problem of great importance and extraordinary complexity. He has classified children according to a scale of height and weight. By these standards he shows that from one quarter to one half of all children fall more than 7% below what he has fixed as a desirable standard.

By carefully worked out methods he brings a given group of malnourished children to a "normal" condition. The methods are clearly described and in his hands are obviously highly successful.

Without question Dr. Emerson's work is of extraordinary value and criticism is directed only at details.

Two obvious questions arise in the minds of those accustomed to dealing with masses of children. In the first place, is "malnutrition" as definite an entity as Dr. Emerson thinks it is? In the second place, is the height to weight relation with its definitely stated normal limits sufficiently accurate?

The reviewer is skeptical on both these points, but it is entirely clear that discussion involves working out an alternative? At present Dr. Emerson holds an almost impregnable position from which no one appears to be able to dislodge him, for lack of stronger weapons than doubt.

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*Influenza, Essays by Several Authors.* Edited by F. G. CROOKSHANK, M.D. (Lond.), F.R.C.P., Physician: The Prince of Wales General Hospital, The French Hospital and Dispensary, and St. Mark's Hospital, London. Consulting Physician, New End Hospital, Hampstead. London: William Heinemann. 1922.

Dr. Crookshank, in a most scholarly collection of essays, deals with the whole conception of influenza from a broader and more analytical viewpoint than most of us, I think, are accustomed to consider it. Seven of the essays included are contributed by the editor, and in these the epidemiology, historical conceptions, and definition of Influenza are taken up.

During 500 years there have been 15 great pandemics of disease; each was considered a new disease, and many names have been given to them: "epidemic catarrhal fever," the "dengue" of a century ago, the "sweating sicknesses" of the 15th and 16th centuries; all, viewing history from a distant vantage point, are analogous to what we call "influenza." Most of these "epidemic constitutions" were preceded or followed by lesser outbreaks of encephalomyelitis or meningo-encephalomyelitis, meningitis, poliomyelitis, encephalitis, or whatever they may have been named at various times. This most variable of diseases we have attempted to classify and pigeonhole according to specificity of type and etiology, but it defies classification. As W. H. Hamer writes (p. 106), "One case of measles is, of course, very similar to another case. . . . It is far otherwise in influenza, which is ever the 'new disease' or the 'new acquaintance,' and is, by general consent, the most protean of all maladies."

To quote him further: "There follows the attempt to grasp the conception of an 'influenza constitution' in the light of all the historical evidence. 'It will be seen, then, that the facts elicited on study of the relationship between influenza and cerebro-spinal fever in the recent prevalences (*i.e.*, those of 1915-1918), or within the period of notification statistics, or on a wider view, within that covered by Hirsch's chronologies, are strikingly confirmed, if in some measure also modified and corrected, on taking a broader sweep still and pursuing inquiry, by means of the great storehouses of facts collected by Creighton, into the history of the last five centuries of the influenzas, cerebrospinal fevers, etc., which lurk more or less disguised under such designations as sweats, agues, cerebritis, encephalitis, and typhus (cerebralis or other).'"

Dwight M. Lewis, in discussing epidemiological considerations, points out that the chief source of confusion has been the persistent way in which certain *correlated* organisms have been considered as the organisms of independent, autonomous and unrelated diseases.

Taking up the bacteriology of the disease, Robert Donaldson shows the vagueness of the term influenza, and the relatively small proportion of cases in which Pfeiffer's bacillus was demonstrated. Only the second of Koch's postulates has been adequately fulfilled by this organism.

Excellent résumés of clinical and therapeutic considerations, nervous syndromes, ocular affec-

tions, surgical aspects, complications affecting the throat, nose and ear, the skin lesions, and influenza complicating pregnancy, labour, the puerperium, the diseases of women are contributed by Abrahams, Jelliffe, McHoul, Boyd, Whale, Davis, and Bourne.

Crookshank concludes the volume with "The Theory of Influenza." We must study history and epidemiology, as well as individual cases and epidemics. To answer the questions "What is Influenza?" and "What is the Cause of Influenza?" "we must comprehend the whole nexus of circumstances and conditions involved, stretching back from the reactions of personal and bacteriological factors in respect of individual cases, through the interplay of communal and local qualities and determinants concerning epidemics, to the more remote and as yet mysterious cosmic precedents that ultimately govern and control the springs and origin of life itself, and the secular modifications and transformations that to us are appreciable as plague and pestilence: '*ex influentia coelesti.*'"

It will be well worth the while of anyone who saw the recent epidemic or who is in any way interested in infectious and epidemic disease to read this stimulating volume.

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*Précis de Pathologie Médicale.* Par MARCEL LABBÉ ET G. VITRY. Masson et Cie, Editeurs.

This work, when completed, will consist of six volumes. At the present time only Volumes 4 and 5 are finished. The complete work is intended to be a compendium of medicine. Volume 1, infectious diseases and intoxications; Volume 2, diseases of the respiratory apparatus; Volume 3, diseases of the heart and blood vessels; Volume 6, diseases of the central nervous system.

The two volumes inspected by the reviewer are Volume 4, diseases of the blood and hematopoietic organs, and diseases of the kidney, and Volume 5, diseases of the digestive apparatus and of nutrition. If the remainder of the series proves to be as excellent as Volumes 4 and 5, the series will present a remarkably compact and complete outline of medicine. The books are written in a very easy style, and can be used by persons having a rather elementary knowledge of French, providing they have mastered medical nomenclature. Although they are presented as compendiums, they cannot be considered to be brief, as the various subjects are thoroughly covered. The system of presentation consists in the consideration of an organ, its physiology, its diseases, and the pathology. The articles are so written that they bring together and correlate all that a student should know about the particular organ. The physiology, pathology and bacteriology, and clinical laboratory methods are considered. There are even such questions as should be asked the patient in arriving at a diagnosis. Likewise, the making of physical examinations for the various organs is discussed and very adequately illustrated.

The therapeutic notes are brief and general. Surgical treatment, when indicated, is of course not detailed. The laboratory methods are not given in detail, in every case, but suggestions as to procedures are always given. The pathological anatomy is very well discussed and fairly well illustrated, mostly in black and white, reproduced in half-tones from drawings. The illustrations are particularly well chosen, whether in regard to the illustration of pathology and parasitology, or in regard to clinical features.

The nomenclature is thoroughly reliable in regard to bacteriology, parasitology and pathology.

The six volumes make a rather lengthy work for the kind of reading the medical student is apt to do in preparation for hospital examinations and state board examinations, but the reviewer knows of no work in English which is approximately equally well done.

For practitioners in medicine and for pathologists who have a wish to correlate the clinical and pathological aspects of disease, the work is admirable. It is to be recommended without reservation to those students and practitioners who desire to keep in use their knowledge of French in very useful study.

An unfortunate feature of the books is that references to original articles are not given, in spite of the fact that many authors are quoted. In the short perusal made by the reviewer, the inability to find original articles quoted proved to be disappointing.

The alphabetical index, which we are accustomed to in American text-books, is as usual not found in these two French volumes.

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*The Oxford Index of Therapeutics.* Edited by VICTOR E. SORAPURE, Oxford Medical Publications, Henry Frowde and Hodder and Stoughton. London, 1921.

The title of this book describes its contents. It is a small encyclopedia. It is designed for the general practitioner and is to be looked upon as a concise and handy reference volume for him to turn to. The articles, contributed by some seventy-five physicians from America and Great Britain, are termed monographs in the preface. This perhaps is misleading, as they are short, concise expositions without references which desirably avoid describing a great variety of treatments. They give a suitable method for dealing with each condition considered, though occasionally methods well recognized by some leading authorities are omitted. In some instances the subject is presented so briefly that from the text one could not adequately follow out the treatment. However, this does not detract from the value of the volume, because as an index it prevents the reader from forgetting possibilities. A very brief statement regarding

etiology and diagnosis helps clarify many of the articles.

The expositions are arranged under group headings whenever the clinical relationship is such as to justify this, such as "Gastro-intestinal conditions," but many topics not conveniently falling into these groups stand by themselves in alphabetical order. The excellent, approximately seventy-five page index at the end of the volume serves for detailed reference. The last two hundred-odd pages are given to a description of the therapeutic agents.

Like all Oxford publications, the appearance and printing of the volume are attractive and pleasing.

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*Nervous and Mental Diseases.* Edited by PETER BASSOE, M.D. Chicago: The Year Book Publishers.

This short annual volume of well-chosen neurological reviews covers critically a large field of neurology and psychiatry. The papers abstracted and discussed are all from the literature of 1921. The principal topics taken up are: Symptomatology; The Neuroses; The Cerebrospinal Fluid and the Meninges; Diseases of the Brain; Neurosyphilis; Diseases of the Spinal Cord; Diseases of the Peripheral Nerves, and Diseases of the Endocrine Glands. There is also a section of sixty-one pages on Mental Disorders. The editor makes the reviews more interesting and instructive by adding parenthetical comments which are of great aid in properly evaluating the contributions.

Perhaps the most interesting group of papers discussed is that dealing with Epidemic or Lethargic Encephalitis. As in other fields, only the significant papers are reviewed, but they are well grouped so as to bring out the advancement in knowledge.

In the Preface the author states: "This year's literature on nervous and mental disease has been abundant. German investigators in particular have published a great deal of material which was pigeon-holed during the war. The usual profusion of colored plates is no longer seen, and the text illustrations are sometimes unsatisfactory on account of the inferiority of the paper used. Among the more important German monographs representing years of thorough clinical investigation, we may single out those by Gennerich and Nonne on a subject of perennial interest—Syphilis of the Nervous System. The French, whose work also maintained a high standard during the trying war period, have furnished new contributions of lasting value, the most noteworthy of the year dealing with paralysis agitans and the sequelae of epidemic encephalitis. Much valuable work has also been done in America."

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*Practical Infant Feeding.* By LEWIS WEBB HILL, M.D., Junior Assistant Physician to the Children's Hospital, Boston; Assistant in Pediatrics, Harvard Medical School. Octavo of 483 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1922.

This book is written in a conversational style, which makes it easy and interesting reading, but also tends to looseness of construction and verbositv. The author first discusses the physiology and pathology of digestion and nutrition, then takes up breast and artificial feeding, disturbances of digestion and nutrition in the bottle fed, the diarrheal diseases, indigestion in older children, the management of premature infants, and finally the diseases of nutrition and eczema. He shows a wide knowledge of pediatric literature, both American and foreign, analyzes it intelligently and utilizes his knowledge practically and judiciously. He emphasizes the importance of thinking and calculating in percentages of the various food elements, stresses the necessity of determining the etiological factor in disturbances of digestion and nutrition and basing treatment on it, and shows that babies must be fed individually, not collectively. It is very pleasing to one who was trained by Dr. Rotch and who has had a part in building up the Boston school of pediatrics to know that there is at least one young man who seems likely to carry on the teachings and uphold the traditions of this school.

It would be easy to pick flaws in this book, as in any other, and there are many points which are open to criticism. This is natural, when a book deals with a subject concerning which there are so many differences of opinion as there are about infant feeding. In general, nevertheless, little can be said, except in approval. The various subjects are taken up rationally and clearly and in every instance the reasons for treatment carefully explained. The chapter on the disturbances of digestion and nutrition in the bottle fed is especially good. We wish that we could be as optimistic regarding the results of the treatment of eczema in infancy as is the author.

The practitioner and student who is willing to think and to be taught how to think will find this work most helpful and most inspiring. The man who wishes to be told how to feed all babies by rule of thumb and how to treat all disturbances of digestion and nutrition with drugs will be disappointed.

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*Management of the Sick Infant.* By LANGLEY PORTER and WILLIAM E. CARTER. St. Louis: C. V. Mosby & Co.

In some ways this book is excellent, in others it is disappointing.

The first ten chapters are devoted to a discussion of symptoms, such as vomiting, fever, hemorrhage, etc. These chapters, with the exception of those on diarrhea and nutrition, can-

not be said to be valuable or interesting, and as is the usual case, a catalogue of all the causes of vomiting, fever or cough, makes rather hard reading.

The next ten chapters are devoted to diseases of the various organs, the next two to technique of methods of diagnosis and treatment, such as lumbar puncture, etc., and to food recipes. The last two chapters take up prescriptions for use in infancy, and the treatment of various forms of poisoning.

The chapter on methods is very good, and the excellent illustrations supplement in a graphic way the descriptions.

For the most part the chapters on treatment are sound, and full of common-sense procedures that the authors have employed. One cannot quite agree with them, however, that the "treatment of erysipelas in infancy is thoroughly satisfactory." Neither would most pediatrists be of the opinion that the serum treatment of infectious diarrhea in infancy is specific, or that the treatment of bronchial asthma with vaccines made from the stools was advisable.

The book is poorly arranged and makes hard reading on account of the headings that are used; there are too many black faced type headings scattered through the text; instead of making the subject matter clearer, this tends to irritate the reader. Despite these defects there is much that is good in the book: one feels that it is based on a large personal experience, as it undoubtedly is, and the discussions of many of the diseases considered, especially pneumonia, pyelitis and tuberculosis, are excellent.

The portions devoted to treatment are intensely practical, and for the most part sound, and the reviewer cannot help but feel that the book would have been a great deal better if the authors had confined themselves to this, instead of mixing in so much other material.

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*The Healthy Child from Two to Seven.* By FRANCIS HAMILTON MACCARTHY. New York: The Macmillan Co.

This book cannot be praised too highly: every page is full of sound common sense. The general plan of the book is as follows: in nine chapters the author discusses the home and its surroundings, feeding, sleep and rest, play and growth, child nature and education, steady nerves and healthy mind, care of the child's body, common diseases and disorders of childhood, prevention of contagious diseases and common disorders of childhood, and common emergencies of childhood. The chapters on food, diseases, care of the body and so forth, are thorough, sound, and excellent in every way, but might have been written by any experienced common-sense physician: the chapters on play and growth, child nature, and steady nerves and healthy mind are the best that the reviewer has ever seen in any book, and show a very unusual insight into child nature. In simple, beautifully chosen language, the author discusses the mental and moral training of children in a truly masterly manner. It is a pleasure to note the entire absence of the words "child psychology" in this book: it is a pleasure to get away from fads and "ologies" of all sorts: it is a relief to find someone who has observed children with true understanding, and who knows how to put his thoughts into such form that they instantly bring to mind practical images. Such a passage as the following is typical of the book:

"Another characteristic of the child nature is what might be called slowness of perception. That this is natural to an untrained mind would seem to be apparent to all, yet, oftentimes fathers and mothers forget this fact, and expect the child mind to comprehend at once, and demand instant obedience. It is not strange that sometimes the young child instinctively prefers to do that with which it is already familiar, or acts slowly in doing something new and unfamiliar. It is something of the same quality inherent in us all—the instinctive desire to understand before we attempt to do. If we are patient and reasonable in our demands, and extend to our children the same courtesy which we ask for ourselves, we shall have much less cause for discipline."

The book is to be thoroughly recommended in every way; it should be read by every parent, and will show them, as the author says, that "the sacred office of parent means more than to be mere providers of physical necessities; it is a teaching office having boundless possibilities."

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*The Organs of Internal Secretion.* By Ivo GEIKE COBB, M.D., M.R.C.S. Third Edition. New York: William Wood and Co. 1921.

The author describes this work as a "Book for the General Practitioner," and states that "it makes no claim to be considered an exhaustive or complete account of the endocrine glands, neither can it be considered as a comprehensive therapeutic guide to the administration of the organic extracts."

There is nothing in the text which leads the reviewer to take exception to the latter statement, but its value to the G. P. is open to doubt. What the practitioner needs are facts concerning disease and its treatment, for it is usually a condition and not a theory which confronts him. It would have been better, therefore, if the author had confined himself to a discussion of the few facts that are known, and omitted to mention many theories.

The chapter on exophthalmic goitre, for example, makes no mention of the important evidence afforded by estimating the basal metabolism in this condition, but after mentioning psychoanalysis, water from "goitre wells," hypodermic injection of bile salts, X-ray, "thyroidectin," thymus gland and calcium salts as methods of treatment, he states that operative

interference should be reserved for the grave cases only, and that it should be performed only after all other remedies have failed. After time has been allowed for each of the above remedies to have failed, the results of surgery could hardly be expected to excite enthusiasm for that method of treatment.

The chapters on the other endocrine glands are open to the same criticism: they do not distinguish sufficiently between theory and fact. In the chapter on the Application of the Hormones, it is stated that "The legitimate uses to which thyroid extracts may be put are not confined to myxedema, or even definite sub-myxedema; there are a number of symptoms, sometimes isolated, which may be remedied by this substance." If such isolated symptoms are due to thyroid lack—and here the estimation of basal metabolism will tell the story—the use of thyroid for their relief is legitimate. But the use of thyroid in any given case, because it has "remedied" a similar symptom in another case is unjustifiable, and occasionally dangerous.

The book is clearly written, and understandable. Physically it is attractive, because of its clear print and comfortable size. Because of the lack of definite statements concerning the internal secretions, it is of questionable value to the practicing physician. Granted that few definite statements can as yet be made concerning the endocrines, it were better not to clutter the field with speculation and theory, which lead too often to loose thinking and the indiscriminate use of glandular preparations.

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*"The Pathological Gall-Bladder." Annals of Roentgenology, Vol. II.* By Arial W. George, M.D., and Ralph D. Leonard, M.D.

The subject is presented in the form of a monographic atlas and is designed for a book of reference, particularly for those who are specialists in roentgenology. The captions of the illustrations and the introductory text of each division are printed in English, French and Spanish. It contains one hundred and thirty-five roentgen ray studies, three of which are photographic and two text illustrations, all of which are exceptionally good.

The first chapter is historical. In the second, the authors discuss in detail the technique which they have found most satisfactory, and describe the apparatus necessary for satisfactory work. In the third chapter there is a very good classification of gall-stones, and the differential interpretation of gall-stone shadows from shadows presenting a similar appearance is well covered. The authors attribute considerable diagnostic importance to the presence or absence of the gall-bladder shadow and discuss its differentiation from other shadows which may resemble it.

In the opinion of the reviewer, the appearance of a shadow resembling the gall-bladder in outline should be given very little weight in the final diagnosis.

Under the heading of "Indirect Evidence," the authors discuss the data obtained from an examination with the barium meal and its value in the diagnosis of gall-bladder disease, and the importance of this evidence is rightly emphasized.

On the whole, the book is a convincing presentation of the value of the X-ray in the diagnosis of gall-bladder disease. It should be remembered that it is written as an atlas and not as a text book.

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*Radium Therapy.* By Frank Edward Simpson, A.B., M.D., Professor of Dermatology, Chicago Policlinic, etc. C. V. Mosby Co. 166 original engravings.

With the ever-increasing use of radium by clinicians, many of whom have little idea of the physics and biologic effects of radioactivity, such a book as Radium Therapy should prove very useful. It is clear, concise, scientific (as far as is possible in this comparatively unexplored field) and practical.

The author starts, of course, with an outline of the history, chemistry and physics of radioactive substances. He gives in considerable detail the experimental work upon which the practical application of radium is based. He describes the method of obtaining emanation and the various ways of applying radium for therapeutic purposes.

Dosage and the technic of radiation are treated at some length, after which the application of radium therapy in the special branches of medicine is considered.

Although the author is himself a dermatologist, his experience with the use of radium in surgery and in medicine would seem to be sufficiently wide to enable him to speak with a good deal of authority upon the subject.

His book is thorough in its fundamentals, sound in its principles, and represents the best opinions of the present day in regard to radium therapy.

## Current Literature Department.

### ABSTRACTORS.


Gerardo M. Balboni — Chester M. Jones
Laurence D. Chapin — Charles H. Lawrence
Austin W. Cheever — Herman A. Osgood
Isador Coriat — Francis W. Palfrey
Ernest M. Daland — Edward H. Risley
Horace Gray — William M. Shedden
Robert M. Green — George G. Smith
John B. Hawes, 2d — John B. Swift, Jr.
John S. Hodgson — Wilder Tileston
Fred S. Hopkins — Bryant D. Wetherell


### Asthma: Its Pathology and Treatment.

Brown (*Edinburgh Med. Jour.*, Feb., 1922) discusses in a practical way, with an elaborate bibliog-

raphy, the subject of the pathology and treatment of asthma. His remarks on the treatment of this condition are practical and sound. The list of references is particularly full, especially concerning the English and German investigators. The references to American writers on this subject are conspicuous by their absence.

[J. B. H.]

### OBSCURE INTESTINAL COLIC.

GRAY (*Brit. Med. Jour.*, Feb. 18, 1922) discusses the general subject of obscure pain of abdominal origin, briefly summarizing his opinion as follows:

"Obscure intestinal colic may arise from temporary causes and be of no real significance; its treatment may be medical, or it may constitute a grave warning of an impending surgical crisis.

"A full understanding of its significance depends, I am convinced, on an appreciation of the fact that the bowel itself is insensitive; that colicky pain arises from, and is referred to, the mesentery; and that the mechanism of colic consists in the natural attempt of the bowel to drive onwards a diseased or inert area, thereby inducing an abnormal tension on the associated mesentery."

[J. B. H.]

### BLEEDING ULCER OF THE DUODENUM ASSOCIATED WITH CHOLECYSTITIS.

JUDD (*Ann. of Surg.*, April, 1922) calls attention to the existence of certain cases in which bleeding of a more or less severe type, with a probable diagnosis of gastric or duodenal ulcer, has occurred in cases which on operation are found to be associated with a more or less severe degree of cholecystitis. He reports four cases in detail and states that there is abundant evidence to show that cholecystitis and hepatitis may be the source of the infections which results in bleeding, and he also thinks there is evidence which suggests that cholecystitis may be the source of the infection causing this symptom even in the presence of ulcer of the stomach or duodenum.

[E. H. R.]

### THE TREATMENT OF SURGICAL TUBERCULOSIS WITH THE CARBON-ARC LAMP.

SAUER (*Ann. of Surg.*, April, 1922) writes that the carbon-arc lamp is an effective agent in curing cases of surgical tuberculosis; that it is as effective as the natural sunlight and has the advantages of convenience and independence of the weather; that it is just as effective, if not more so, than the x-rays, without the attendant dangers; that it is far more effective than the quartz-mercury vapor lamp, as has been amply demonstrated by Reyn.

[E. H. R.]

### THE CAUSE OF DEATH IN HIGH INTESTINAL OBSTRUCTION.

ELLIS (*Ann. of Surg.*, April, 1922) draws the following conclusions from his observations:

1. That from the intestinal content in cases of high obstruction, a poison can be isolated by precipitation with alcohol, extraction with boiling water and reprecipitation with the aid of magnesium sulphate.

2. That it is not possible to obtain such a poison with this method from the intestinal content of a normal dog prepared immediately after removal.

3. That a poison which, when judged by the means at our disposal, is identical, can be obtained from conditions other than actual obstruction, such as the intravenous injection of the high obstruction toxin into normal animals, the removal of the adrenals, portal obstruction, and in experimental, acute, fulminating, non-bacterial peritonitis.

4. That this poison is undoubtedly elaborated in the cells of the greater part of the mucosa of the small intestine, but chiefly in those of the duodenum, and that it is manifestly excreted, partly into the lumen of the intestine, but the larger part passes into the lymph stream.

5. That the clinical similarities between acute pancreatitis and high obstruction are due either to a close relationship between the toxins involved, or possibly to the fact that acute pancreatitis actually produces conditions in the intestinal mucosa favorable to the production of the same toxin as is found in cases of high obstruction.

6. Since erepsin fails to exert any action upon the toxin, and since the toxin shows no lymphagogic action whatever, it seems necessary to conclude that the toxin is neither a proteose nor a hereto-proteose.

7. That the clinical advantage of gastric lavage may be explained by the removal of the toxic content and the favoring thereby of an increased excretion into the lumen of the intestine. In addition to this treatment, should be added the introduction of large amounts of saline, both intravenously and by the rectum, to further the excretion of the toxin both by the bowel and by the kidneys.

8. That the finding of the toxin in the intestinal content after the removal of the adrenals suggests that clinically adrenalin should be added to the saline infusion in sufficient amount so that a continuous supply of adrenalin is being furnished.

[E. H. R.]

### TREATMENT OF FEBRILE ABORTION.

MAUTHNER (*Wien. Klin. Woch.*, April 6, 1922) discusses the individualized treatment of septic or febrile abortion, dividing cases into two groups, according to whether the cervix is or is not dilated or easily dilatable. For the former class, he recommends digital curettement, followed by irrigation, ergot, pituitrin, and wick drainage; for the latter, in addition, a precedent digital dilation or anterior colpohysterotomy.

### TREATMENT OF LISPING.

STERN (*Wien. Klin. Woch.*, April 20, 1920), from Fröschel's clinic for speech defects, in Vienna, discusses the treatment of the varieties of lisping.

[R. M. G.]

### TREATMENT OF BARTHOLINITIS.

WEITGASSER (*Wien. Klin. Woch.*, April 27, 1922), from Matzenauer's clinic at Groz., reports nine cases of suppurative Bartholinitis treated by simple, conservative methods with successful result. [R. M. G.]

### NOSOGRAPHY IN MODERN MEDICINE.

FABER (*Annals of Medical History*, March, 1922), professor of internal medicine at the University of Copenhagen, Denmark, in an elaborate article on nosography in modern internal medicine, beginning with Sydenham, traces the work of the early English nosologists and the Paris school of anatomic diagnosis, through German physiological medicine and the bacteriological clinic, to present-day functional diagnosis and constitutional pathology. In his final remarks he summarizes the evolution of nosography, and points out that the final aim of medicine is to require such a knowledge concerning the etiology and consequent development of morbid

processes as to enable the adoption of the best and correct methods of action in prevention or treatment. [R. M. G.]

### THE DIAGNOSIS AND TREATMENT OF TUBERCULOUS EMPYEMA.

HEDBLOM, C. A. (*Surgery, Gynecology and Obstetrics*, April, 1922), writes:

1. Primary or idiopathic pleurisy with effusion, in a large proportion of cases, is probably tuberculous in nature.

2. A past history of pleurisy with effusion is common in cases of tuberculous empyema. In many cases the effusion is serious at the onset.

3. Tuberculous pleurisy may be primary or it may be secondary to a pulmonary, peritoneal, or other tuberculous lesion.

4. The onset of a tuberculous effusion may be insidious or it may be sudden and associated with an acute and severe constitutional reaction. A mixed pleural infection due to the perforation of a tuberculous cavitation often runs an acute and rapidly fatal course.

5. Diagnosis of tuberculous empyema is made by demonstration of the bacilli in the exudate, by animal inoculation, or by examination of the sectioned pleura.

6. A sterile effusion is probably tuberculous. An infected effusion may be tuberculous.

7. Empyema following primary idiopathic pleurisy with effusion, or empyema of insidious onset, especially in the presence of a pulmonary or other tuberculous condition, is probably tuberculous.

8. Empyema may be tuberculous in spite of persistently negative findings over a long period of time.

9. In a closed pleural cavity a sterile effusion, whether serous or purulent, should not be treated by open drainage, except in the presence of an impending perforation of the chest wall.

10. Repeated aspiration of only part of the fluid present is indicated in cases of serous effusion producing definite dyspnoea on exertion or symptoms of circulatory embarrassment.

11. The replacing of aspirated fluid by nitrogen or filtered air may be indicated in cases in which there are symptoms of active phthisis referable to the same side as the effusion.

12. A sterile purulent effusion should be treated as though it were serous if the lung expands when fluid is withdrawn. If the lung is fixed in a collapsed condition, or if the effusion persistently recurs, an extrapleural plastic operation is indicated.

13. Effusion in a closed cavity showing a mixed infection should be treated by the closed method with antiseptic solution irrigation, or by open drainage; the open drainage is indicated especially in cases of severe infection associated with extensive pulmonary tuberculosis, making irrigation hazardous.

14. Tuberculous empyema with a large bronchial fistula should be drained by the open method.

15. A large tuberculous empyema with mixed infection from a previous drainage operation or from spontaneous perforation of the chest wall requires a plastic operation, preferably with Dakin's solution.

16. A plastic operation, involving closure of a bronchus, offers the only prospect of cure in case of an associated large bronchial fistula.

17. Dakin's solution irrigation may be contraindicated in the presence of an extensively diseased lung, owing to its corroding action on any superficial lesion, possibly resulting in hemorrhage or the formation of a bronchial fistula.

18. A plastic operation is usually eventually required in the case of closed cavities when the empyema is of long standing, and of all large, open, secondarily infected cavities.

19. An extrapleural rib resection is indicated for the collapse of closed sterile cavities. The Boiffin-Wilms operation is especially suitable for the collapse of large cavities without excessive thickening of the parietal pleura or rib deformity.

20. A skin or skin muscle plastic is indicated for the obliteration of relatively small cavities. Cases of long standing associated with greatly thickened pleura require an extensive resection of the entire chest wall after the method of Schede.

21. Operation in several stages is especially indicated in the treatment of tuberculous empyema, and, if practicable, it should be preceded by antiseptic solution irrigation. Such treatment should extend the indications for operation and should lower the post-operative mortality. [E. H. R.]

### INFECTIOUS JAUNDICE IN BOMBAY.

PARMANAND (*Ind. Med. Gazette*, Feb., 1922) reports seven cases of epidemic jaundice in Bombay, in January, 1922. The symptoms at the beginning were headache, intestinal disturbance, and high, irregular fever. During this febrile period which lasted from four to eight days acute congestion of the bulbar conjunctiva was a well marked feature. Then followed a period of about eight days in which the fever dropped and deep jaundice developed, intestinal disturbance was aggravated, and there was nausea, vomiting and extreme weakness. The pulse became feeble and there was restlessness and a tendency to haemorrhage. After this period a gradual convalescence began. Spirochaetes were recovered from the urine and cultivated, some forms resembling very much the treponema pallidum. Intravenous injections of serum from convalescent patients and from actively immunized horses are recommended. Salvarsan has also proved useful. [L. D. C.]

### GROWTH PROBLEMS FOLLOWING OSTEOMYELITIS OF ADOLESCENT LONG BONES.

SPEED, K. (*Surgery, Gynecology and Obstetrics*, April, 1922), from a study of a considerable number of cases, states that one should be extremely conservative in draining acute suppurative epiphysitis of adolescent long bones, and always in operating one should not reflect the periosteum any more than is necessary, that injury to the blood supply of the epiphysis is most serious, and he makes the following statements in conclusion:

1. Remember the law of nutrient arteries in relation to growing long bones, *i.e.*, the nutrient arteries are directed toward the elbow and from the knee, and the epiphysis toward which the artery is directed unites first. The fibula is an exception, of course. Consequently, the lower epiphysis of the femur, the upper epiphysis of the tibia, the lower epiphysis of the radius and ulna, and the upper epiphysis of the humerus all unite at last in their respective bones, and must be the most guarded.

2. Unless a bowing deformity in the leg or forearm tends to manifest itself rapidly and to cause great loss of function or threaten skin necrosis, splint correction of the extremity for at least one year is favored.

3. If both clinical and x-ray examination during the course of the year show that the bone is arrested in growth, a shaft resection of the companion bone, remote from the epiphysis, is performed to equalize length. Simple means (kangaroo tendon) of holding the resected ends in apposition are used, followed by a firm splint until union takes place.

4. If the child is young (many years and inches of growth expected), after two or three years, when it is quite positively established that the epiphysis of the damaged bone has ceased all growth and is

obliterated, the analogous epiphysis of the fellow bone may be excised (epiphysectomy) to stop its overgrowth. Each bone then grows at an equal rate from the remaining epiphysis, and there is no fear of subsequently appearing bowing deformity. Length deformity will persist. [E. H. R.]

AN ANALYSAS OF THE END-RESULTS IN TWO HUNDRED THIRTY-TWO HYSTEROMYOMECTOMIES, WITH SPECIAL REFERENCE TO OVARIAN CONSERVATION.

CLARK, J. G., and NORRIS, C. C. (*Surgery, Gynecology and Obstetrics*, April, 1922), write as follows:

1. Hysteromyomectomy is productive of excellent end-results whether or not ovarian conservation is practised. Of all patients in our series, over 99.5 per cent. were cured or improved, and over 83 per cent. declared that their general health was good or improved one year or more after operation.

2. Better end-results and greater comfort to the patient can be secured as the result of ovarian conservation.

3. Everything being equal, better end-results follow the conservation of both ovaries than the retention of one, but one ovary is far better than none.

4. Conserved ovaries seldom give subsequent trouble. Among 171 cases in which ovarian conservation was practised, 261 ovaries were conserved, and in none of these patients was a second operation for the removal of the ovary necessary. This is a strong argument in favor of ovarian conservation in this class of cases, for if the conserved ovary does not give trouble, there can be no excuse for its removal.

5. That conserved ovaries may give subsequent trouble is conceded, as is also the fact that the series of cases quoted may have been unusually fortunate in this respect. Successful ovarian conservation depends upon the condition of the ovary at the time of operation, the maintenance of an adequate blood supply, and the retention of the ovary in its normal position.

6. We believe that undue emphasis has been placed upon the frequency of cystic and other forms of degeneration in conserved ovaries, and that attention to the points just metioned will largely abrogate such disturbances.

7. Bearing in mind the fact that good results can be secured by performing bilateral oöphorectomy, it is often better to sacrifice a doubtful ovary than to spare it. This is a point, however, on which each case must be judged individually.

8. When both ovaries are removed, the surgical menopause is by no means severe in all cases, those patients who suffer unduly being in the minority.

9. The age of the patient is not an unfailing criterion as to the severity of the surgical menopause in any given case. Young women will sometimes bear the loss of both ovaries well, whereas some of the most severe phenomena of the surgical menopause encountered in this series have occurred in patients past 40 years of age. This does not imply that the age is an unimportant factor in considering the question of ovarian conservation. Other things being equal, there is no doubt but that younger women suffer more severely as a result of a bilateral oöphorectomy than do those who are older.

10. A more important guide than the age, however, is the temperament of the individual patient. The highly strung, neurotic woman is likely to suffer more severely than her more phlegmatic, asexual sister.

11. Each case should be individualized. The temperament of the patient should be studied, and a correlation of this with the history and the pathological process found at operation should determine the type of operation to be performed.

12. Conserved ovaries functionate.

13. Even in those patients in whom the ovary does not function permanently, the occurrence of the surgical menopause is less abrupt and severe than in those women upon whom a bilateral oöphorectomy has been performed. Among the former class of cases the artificial menopause generally resembles the normal menopause more closely than does that following the removal of both ovaries. [E. H. R.]

HUMAN ACTINOMYCOSIS, WITH SPECIAL REFERENCE TO SOURCE AND MODE OF INFECTION.

MATTSON, W. W. (*Surgery, Gynecology and Obstetrics*, April, 1922) writes as follows:

1. There is but one true species of micro-organism capable of producing actinomycosis in man and lower animals, and this is the one isolated by Wolff and Israel and later more fully described by Wright.

2. There is no convincing clinical evidence supporting the theory that this organism is a normal inhabitant of the oral cavity and gastro-intestinal tract of man.

3. There is much clinical and biological evidence that his micro-organism has its source outside of the human body and is capable of a dual existence; first, as a saprophyte in old sod soil from which it gains access to grains and grasses, and through this medium or intermediary host, so to speak, it becomes capable of infecting man and lower animals.

4. In order for infection to take place, two things are necessary; first, an abrasion of the tissues; second, the fungus must in some way be brought directly in contact with this abrasion.

5. Animal-to-man infection is far more common than we have been led to believe it was by earlier investigators.

6. Human actinomycosis is not a rare disease, but a disease which is often overlooked or incorrectly diagnosed.

7. Every inflammatory swelling of chronic or subacute nature with persistent and recurring sinus formation should be carefully investigated for this disease.

8. A negative smear, on first examination, does not rule out infection, as the fungus, in the presence of mixed infection, is often very difficult to find.

9. The disease should always be kept in mind in every case of atypical pulmonary tuberculosis and should be looked for in cases suffering with chronic purulent bronchitis or bronchiectasis.

10. Early treatment of superficial lesions are highly successful. Internal infections are extremely fatal and hopeless. [E. H. R.]

THE MANAGEMENT OF ACUTE CRANIAL INJURIES BY THE EARLY, EXACT DETERMINATION OF INTRACRANIAL PRESSURE, AND ITS RELIEF BY LUMBAR DRAINAGE.

JACKSON, HARRY (*Surgery, Gynecology and Obstetrics*, April, 1922), writes as follows:

1. In most acute injuries of the brain, the cerebrospinal fluid pressure is a fair index as to the severity of the lesion. Dependable prognosis can be made by any increase or decrease of this pressure.

2. A new clinical classification of injuries of the brain based upon cerebrospinal fluid pressure alone, as shown by the mercury manometer, is superior to the accepted classification of concussion, contusion, and compression.

3. The pathogenesis of acute injuries of the brain demonstrates that the principal effect of the oedema of the brain and haemorrhage is to interfere with the absorption of cerebrospinal fluid by the usual paths; this sets up a vicious circle, causing further pressure on the brain by the accumulating fluid in the basal cisterns below the tentorium cerebelli, and in the lateral ventricles, which presses the brain upward against the dura and produces cortical anaemia. The cortical anaemia, if unrelieved, quickly leads to gliosis, causing lasting changes in

the character, disposition, and mentality of the patient, if he recovers from the brain injury.

4. The relief of the increased pressure on the brain and the re-establishment of the normal path of absorption of the cerebrospinal fluid can be obtained by repeated lumbar drainage—which in acute injury cases is absolutely without danger.

5. Lumbar drainage is superior to sub-temporal decompression in relieving pressure below the tentorium cerebelli, and has the further advantage that it leaves no mutilating skull defect. The use of concentrated salt solutions intravenously lowers cerebrospinal tension but does not remove blood.

[E. H. R.]

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### Anomalous Abdominal Membranes.

Taylor, Alfred S. (*Annals of Surgery*, May, 1922), presents a 60-page article on this subject, representing his experience with 49 cases. The article is concise and well presented. The following summary is appended:

1. Anomalous membranes are present in from 15 to 20 per cent. of new-born infants.

2. They result from atypical peritoneal fusion during fetal life. Many of them are probably modified by later pathological changes due to continued traction, irritation, or low-grade inflammation.

3. They occur in the hepato-duodenal region, at the duodeno-jejunal angle, and about the caecum, ascending colon, hepatic flexure and beginning transverse colon.

4. Two or more of these regions are involved in the majority of individual cases. Groups of cases illustrating the results of treatment of the membranes found in the individual locations have been published by various men. Hepato-duodenal group by *Harris;* duodeno-jejunal groups by *Kellogg;* and pericolic group (Jackson's membrane) by *Jackson*, but sufficient emphasis seems not to have been put upon the fact that two or more of these lesions exist in the majority of individuals who fall within the large group.

5. They cause mechanical disturbances, fixation, angulation, compression and torsion of the digestive tract, resulting in partial, continuous and often increasing obstruction. This, in turn, frequently causes dilation proximal to the obstruction.

6. Symptoms result when the obstruction becomes greater than the peristaltic efficiency can easily overcome. This balance may be gradually lost over a long period of time, with resulting slowly increasing symptomatology. It may be suddenly lost as the result of a prostrating injury or illness, the obstruction remaining constant while the viscus, becoming atonic, is no longer competent to overcome it. Sometimes the viscus regains its relative power and the symptoms improve. Often the viscus can never overcome the handicap and symptoms are continuous and progressive.

7. For a long time it was thought that these cases developed symptomatology only after twenty years or more of age. The invesigations of *Kerley* in infants and children suffering from malnutrition, cyclic vomiting, recurrent acidosis, etc., show that abdominal examination and studies of the barium gastro-intestinal series give precisely the same findings as do the older cases in which operation has demonstrated the lesions, and caused cure in a high percentage of cases. This would indicate that symptoms appear in definite form at any period of life when the balance of peristaltic efficiency against the partial obstruction is lost.

8. The symptomatology consists of digestive disturbances previously described; general nutritional disturbances; nervous debility, usually termed neurasthenia (and occasional mild psychosis). At some period the appendix is likely to become tender to pressure, is assumed to cause the symptomatology by "reflex action," whatever that may be, and is removed, with failure to cause improvement.

9. There are usually tender spots in the mid-epigastrium, over the appendix, over caecum and ascending colon, and over the duodeno-jejunal angle, depending upon the presence of the various lesions. There is varying dilation and ptosis of the stomach, and varying dilation of caecum and ascending colon. In marked obstruction at the duodeno-jejunal angle, the dilated duodenum can be made out.

10. Examination of gastric contents and stools gives no evidence of value, as a rule.

11. The most important element of evidence is found in the barium gastro-intestinal series. It must be a good series, with sufficiently frequent plates. The plates must be read by one experienced in these cases. It is common to receive typewritten reports that the plates are "negative," or that the digestive tract is "normal," when inspection of the plates shows characteristic evidence to be on the plates. Fluoroscopy should be done by one experienced in these cases, especially to determine the presence of obstruction at the duodeno-jejunal angle, indicated by marked distention of dependent duodenum with writhing and rushing of the contents back and forth. The pictures are not quite so conclusive, and on the operating table the duodenum may be empty and the condition not so obvious.

The plates are likely to show:

Hepato-duodenal Membrane: The stomach dilated, ptosed, with varying peristaltic activity. With or without retention. The apex of duodenum fixed high, sharply angulated and showing little mobility. The cap is often deformed but not in the way characteristic of ulcer. The second part of duodenum is likely to be compressed and narrowed.

Duodeno-jejunal Angle Obstruction: Dependent duodenum, if dilated, may or may not show definitely on the plates.

Pericolic Membrane: The hepatic flexure shows high fixation (often near the duodenal apex), angulation, and often transverse colon descends in contact with ascending colon. Caecum and ascending colon are dilated, ascending colon often showing constriction at about its middle. Appendix, if still present, usually retains the barium for long periods. Ileocaecal valve is often incompetent.

12. Treatment: (a) Prolonged medical. (b) Surgical. Best incision is "transverse right rectus," as it gives best exposure of the whole field, and post-operative adhesions are in least troublesome situation. (c) Post-operative. Abdominal massage. Medical supervision of diet and general hygiene, etc.

[E. H. R.]

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### Acute Hematogenous Osteomyelitis.

Starr, C. L. (*Archives of Surgery*, May, 1922), differentiates between acute hematogenous osteomyelitis and the sub-acute and chronic form. He is in the habit of employing two or three drill holes into the bone instead of chiseling definitely through the cortex in the medulla. In many cases this is sufficient to produce ample drainage. In no case does he purposely open the medullary canal at first, and he believes that the old treatment of previously opening in the medullary canal for two or three inches up the shaft is, in the light of his experience, a pernicious one. The article is a distinct contribution.

[E. H. R.]

### EPITHELIOMA OF THE GENITO-URINARY ORGANS.

BRODERS, A. C. (*Annals of Surgery*, May, 1922), taking information from 473 cases representing 23.65 per cent. of 2000 cases of general epithelioma observed in the Mayo clinic from May 1, 1904, to July 24, 1915, furnishes a statistical report upon the incidence of this condition in the various parts of the genito-urinary tract. He gives 24 pages of tabulated and charted results. [E. H. R.]

### THE PRESENT STATE OF OPERATIVE OBSTETRICS REFERRING TO THE ABUSE OF CAESAREAN SECTION.

POLAK, J. O., and BECK, A. C. (*Surgery, Gynecology and Obstetrics*, May, 1922), state that surgical intervention is being too freely employed to terminate labor, and furthermore that the results for mother and child from such interference (oftentimes unindicated) with the physiological processes of labor do not justify their employment.

That the adoption of the principle and practice of aseptic intelligent expectancy in labor, when the factors of labor are known to be normal, or approximate the normal, is still the safest method of delivery, not only for the mother, but for the foetus.

That there is a high morbidity even in the clean caesarean section, very much higher, in fact, than is common in operations for pelvic tumors, such as fibromyomata and ovarian cysts. This is due to the presence of infective bacteria in the cavity of the puerperal uterus, which migrate from the vagina to the interior of the uterus, through the open cervix.

That even in expert hands there is a definite maternal risk from caesarean section, greater than is generally known. Our mortality studies show that this ranges from 2.9 per cent. to 14 per cent., depending on the time in labor at which operation is done, after rupture of the membranes and on the amount of vaginal invasion present.

And finally, in view of these facts, we feel that every pregnant woman should have greater prenatal study and care than is commonly given her, so that complicating conditions may be recognized, prevened, or corrected, before labor, and where this is not possible, the knowledge gained from this study will permit the obstetrician to conduct the labor in such an intelligent and aseptic manner, as to minimize the dangers from abdominal delivery. [E. H. R.]

### HYPEREMISES GRAVIDARUM.

PADDOCK, C. E. (*Surgery, Gynecology and Obstetrics*, May, 1922), has recently treated several cases of the pernicious vomiting of pregnancy by use of the duodenal tube, thus resting the stomach, and giving the patient nourishment during this critical period. He suggests that this may be a means of saving a certain number of desperate cases, and can easily be used in place of jejunostomy, which has been resorted to by several surgeons recently in the more desperate type of case. The report is a suggestive and valuable one. [E. H. R.]

### CONGENITAL MEGACOLON IN ADULT.

FOWLER, W. F., DAVIDSON, S. C., and MELLON, R. R. (*Surgery, Gynecology and Obstetrics*, May, 1922), write as follows:

1. The so-called idiopathic megacolon is relatively infrequent in childhood and rare in the adult.

2. The only congenital feature of megacolon is the redundant sigmoid.

3. The unobstructed redundant sigmoid may be nearly or quite symptomless

4. The degree of obstruction, from whatsoever cause, determines the subsequent course. a. Relatively slight obstruction (the "angulation" of Delatour) produces a definite syndrome without dilatation or hypertrophy. b. Acute obstruction (usually volvulus), either primary or superimposed upon hypertrophy, induces sudden dilatation and the desperate picture common to such obstructions. c. Chronic obstruction causes gradual dilatation and compensatory hypertrophy, the type described by Hirschsprung.

5. Kinking, or valve-like action at the rectosigmoid junction is the usual cause of obstruction. When the rectum, also, is involved, anal spasm is a likely factor.

6. The surgical treatment of megacolon aims at removal of the crippled bowel and restoration of the intestinal continuity. [E. H. R.]

### DIAGNOSIS OF PULMONARY CONDITIONS IN CHILDREN.

PIERSON, JOHN W. (*Am. Jour. of Ro.*, Jan., 1922), seeks to discuss certain types of pulmonary conditions in children. The writer finds that it is almost impossible to set a standard for diagnosis in cases of pulmonary infections because of the varying results of tests applied. For example, a case will be found pathological by x-ray examination, where nothing abnormal is observed on physical examination. Then, too, it is difficult because there are numerous factors causing changes in the lungs which do not have any direct bearing on the case.

In treating the numerous types of pulmonary conditions, the writer observes:

Acute infections: Acute bronchitis causes no changes which are demonstrable by means of x-ray examination.

Bronchopneumonia: Bronchopneumonia in its acute stage is characterized by areas of consolidation; passing to the chronic stage these areas clear, but there is a very extensive fibroid infiltration outlining the bronchial tree with thickened and dilated bronchi.

Tuberculosis: Children developing a very early tuberculosis usually die. In these cases it was noted that no changes were shown before the 6th month. In older children the enlargement of the mediastinal glands give almost positive evidence of tuberculosis.

Thymus: Cases of persistent thymus, diagnosed as such because the patients were too young to have tuberculous glands, showed marked improvement under x-ray treatment.

Rickets: Pulmonary findings in rickets usually occur within the first three years of the child's life. It is difficult to diagnose any concurrent lung infection in such cases, owing to the various conflicting changes occurring throughout the entire chest.

[H. A. O.]

### ROENTGENOTHERAPY OF THE THYROID.

TYLER, A. F. (*Am. Jour. of Ro.*, Jan., 1922, Vol. ix), discusses only cases of hyperhyroidism; all other types of goiter should be treated by surgical or medical means, rather than roentgenotherapy.

The three types of hyperthyroid cases, *i.e.*, the toxic adenoma, the hyperplastic toxic goiter, and the exophthalmic goiter, respond to roentgenotherapy in the order named.

In treating patients suffering from thyroid disease, the following schedule is adopted: First, a detailed history is taken, both family and personal. Then a thorough physical examination is made, followed by an x-ray examination of all teeth and accessory sinuses and a fluoroscopic examination of the chest, together with plates in oblique position. After this a basal metabolic estimation is made; then x-ray or radium is employed, radium being used only in cases requiring hospitalization. Ambulatory patients are treated by x-ray, using 10½ inch spark gap, 6 mm. of aluminum and one thickness of sole leather, 8 inch anode skin distance, 6 ma. of current for 15 minutes over each area, treating three areas, one over each lobe and one over the thymus region. This dosage administered three times, four weeks elaps-

ing between each treatment, is usually all the patient needs.

The advantages of roentgenotherapy for toxic goiter over other treatments are:

1. There is no surgical shock, hence the mortality is very low.
2. It is successful where surgery fails.
3. It can be employed in inoperable cases.

[H. A. O.]

### A Review and Classification of Bone Sarcomas.

Ewing, James (*Archives of Surgery*, May, 1922), presents a most thorough and learned treatise upon this still obscure subject. He describes the various varieties according to his own classification, which is included in the text. The text is well illustrated by photographs and microphotographs and the following general conclusions are reached:

1. It has been shown by physical computation, histologic changes in the tumor tissues, and clinical results, that it is possible to deliver an effective dosage of roentgen ray or radium to all parts of many osteogenic sarcomas where the tumors are accessible from all sides.

2. The histologic changes demonstrate a slowing of the rate of growth of the tumor cells, by which they are induced to lay down calcific material, or dense hyaline stroma, or bone. With vascular and cellular tumors, hemorrhage and necrosis may be produced.

3. Cellular tumors without much intercellular stroma may undergo complete resolution and disappear.

4. Tumors producing much intercellular material can probably not be made to disappear by present technic with physical agents. The most that can be hoped for such tumors is the sclerosis or ossification of the tumor tissue with cessation of growth.

5. The majority of true osteogenic sarcomas under radiation, while suffering retardation of growth, prove fatal from the usual metastases. It may be said that they would do so under any circumstances; but the possibility that prompt amputation might save some patients may be considered by many as a bar to conservative treatment. On the other hand, the long survival of certain cases heavily radiated and later coming to amputation strongly suggests that effective radiation distinctly postpones metastases.

6. The technic of employing roentgen ray and radium in osteogenic sarcoma can be made much more efficient by the proper selection of cases, by more careful study of the exact anatomic condition to be dealt with, adapting the agents to the conditions as found, and by a judicious combination with surgery.

It is obvious that the problems here involved are of a major character and demand the most intelligent coöperation of surgeon, radiologist and pathologist. From results already obtained, I am convinced that large rewards await the resourceful worker, by using all the means now at his disposal, in reducing the mortality from this lethal disease.

[E. H. R.]

### Fracture Dislocation of the Spine Treated by Fusion.

Hibbs, R. A. (*Archives of Surgery*, May, 1922), presents an article well illustrated with x-ray plates of this condition and makes the following statements in conclusion:

It is evident from the study of these cases that:

1. Many fracture-dislocations of the spine are not recognized.

2. They occur with greatest frequency in the lumbar spine; and the fifth lumbar vertebra is the one most often injured.

3. Those which take place in childhood may not cause symptoms until adult life, when the completed ossification of the vertebrae destroys their capacity for accommodation to altered shape and position.

4. The symptoms are caused by the mobility of these altered joints and ununited fractures. Elimination of motion is essential to complete and permanent relief.

5. Fusion of the articulating bones is a means to that end. It has been accomplished by the operation herein described, with complete relief in every case.

[E. H. R.]

### Carcinoma of the Lung.

Barron, M. (*Archives of Surgery*, May, 1922), reports on thirteen cases studied at necropsy in relation to its incidence, pathology, and relative importance, and he makes the following remarks in conclusion:

1. Carcinoma of the lung is a rare disease; but its rarity is exaggerated by the failure to recognize many of those cases that do occur. It is only at necropsy that many are revealed.

2. Carcinoma of the lung may be diagnosed clinically. However, a diagnosis is possible only when careful and detailed histories are taken and accurate physical examinations are made. Laboratory and roentgenologic studies may also be helpful. All facts obtained must be carefully correlated. Statistics show that complete examination of the patients have, in the hands of certain practitioners, resulted in correct clinical diagnosis in from 80 to 95 per cent. of the cases.

3. This disease is apparently increasing in frequency, especially during the past few years. Chronic inflammations, such as tuberculosis, are possible factors in the etiology of the disease. The last great influenza epidemic is perhaps another factor. The average incidence has been about two per 1000 necropsies. In our series, during the past few years the increase has been about fourfold. The disease has formed about two per cent. of the cases of cancer encountered at the postmortem studies.

4. Most pulmonary carcinomas develop from the bronchial epithelium. Some originate from the bronchial mucous glands, and only a few arise from the alveolar epithelial cells.

5. Epithelial metaplasia is relatively common in bronchial mucous membranes. This may explain the origin of the comparatively large number of squamous-cell carcinomas in this region.

6. Metastases are common in this disease, and often are numerous. The frequency of metastases to the brain, suprarenals and thyroid is very striking.

7. Pain in the chest, cough and dyspnea occur early. Bloody sputum and asymmetry of the chest are important findings in these cases. Laboratory procedures and roentgenologic studies have thus far not proved of very great assistance in the differential diagnosis.

8. Bronchiectasis is an important complication, especially since it may give misleading physical and roentgenologic findings during the course of the disease.

9. The study of the thirteen cases reported in this paper shows the importance of assuming a new attitude toward this disease with reference to its prevalence and diagnosability. The two cases encountered at the University Hospital during the past year were both recognized clinically; but ten of the remaining eleven of this series were not diagnosed correctly. This fact points strongly to the necessity of greater familiarity with the signs, symptoms and pathology of the disease. [E. H. R.]

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## HOT WEATHER DANGER TO INFANTS.

WITH the exception of the first two years of life, the summer is the season of lowest mortality and a minimum of disease; but for the infant these months offer the greatest risk and a mortality far higher than at any other time of the year, due entirely to the incidence of acute gastro-intestinal disease. The "Mortality Statistics" of the United States Government show the general tendency for the total death rate in the summer months to be about half that in winter, while the infant diarrheal deaths in August reach three or four times the winter level.

Many of the factors which determine the high summer infant mortality are known, and a further study of mortality statistics shows that the application of our knowledge regarding these factors during the past two decades has resulted in the saving of many infant lives. In 1900 the figures for the total registration area of the United States show an August mortality more than thirteen times that of January. In 1910 this difference had fallen to about nine times, in 1915 well below six times, and in 1920 to about three and one-half times. This last difference is merely an indication of the possibilities still before us. From these figures it is evident that summer diarrhea is to a large degree preventable, and as the agencies carrying out these preventive measures gradually increase their scope and influence, we look confidently toward an increasing reduction in the mortality and morbidity figures during the months of excessive heat.

Preventive medicine is taking a place of increasing importance in the activities of the general practitioner, and in no sphere can this activity be fostered to greater advantage during the months immediately before us than in the prevention of disease in infants. It is with these considerations in mind that we are reviewing the factors which are well known to play a part in the production of our high infant mortality, hoping that greater interest may be aroused in and further attention paid to these apparently minor considerations, when the possibilities within our reach by so doing are fully appreciated.

The factor longest recognized and having received the greatest attention in the past, is that of proper milk supply. The artificially fed infant has always been the one to suffer most; not primarily because of the inherent difference in the constitution of cow milk as opposed to human milk, but because of the difficulties attendant upon procuring a clean milk (*i.e.*, milk of low bacterial count) during the hot weather. Very great progress has been made in this country along this line, and much of the reduction in our mortality is due to this one factor alone. This, however, has probably made us too confident about our milk supply, and allowed us to overlook possibile opportunities for the development of a dangerous degree of bacterial growth in even the best grades of cow milk. How often do we inquire regarding the length of time the milk stands at the back door on warm summer mornings before it is taken in, made up into the formula and placed on the ice? Proper methods of collection, storage, and delivery, can do a great deal toward providing a suitable infant food, but all of these together can not insure against the occasional administration of unsuitable milk. We, therefore, strongly advocate boiling all formulas made for infant consumption during the hot weather, even though the best milk is procurable and all other precautions can be taken. The milk supply is the greatest source of danger, but the importance of avoiding infection from other sources should be mentioned in passing. It should not be forgotten that anything that enters the infant's mouth is a possible carrier of infection.

In recent years, however, additional causes have been found to have a bearing upon the incidence of gastro-intestinal disturbances in hot weather. The infant's capacity for heat regulation, that is, the adjustment between heat production and heat loss has been shown to be important. The two factors known to influence heat production are muscular activity and food intake. The first of these factors is not under

our control in the case of infants, and no attempt should be made to limit muscular activity; but we can regulate food intake, and it is a safe precaution to lower the caloric value of the food given on the very hot days. This reduction may best be made in the artificially fed infant by the substitution of water for part of the milk in the formula, and in the breast-fed by giving a little boiled water before nursings, for the water requirements are greatly increased, water being the vehicle of heat elimination.

McClure and Sauer have studied the question of heat elimination and have shown the important influence which clothing has upon conduction, radiation, and evaporation at the various temperatures. Sauer also has shown how nearly the indoor costume of the average infant in summer approximates that in winter. They advocate the use of less and more permeable clothing, and more frequent baths as means of facilitating heat loss. The possibilities of preventing gastro-intestinal upsets by careful attention to such details becomes more evident when we consider the observations of Helmholz, that infants can tolerate temperatures decidedly above those usually considered harmful without showing any bad effects. He concludes that "it is a matter of improper adjustment of the individual to its surrounding temperature, rather than the height of temperature, that helps to swell the total gastro-intestinal deaths during the summer." The height of the temperature is usually not under our control, but we can materially assist in making a proper adjustment to existing conditions possible.

Exposure of an infant to too intense and prolonged sunlight is also a possible means of upsetting the heat regulating mechanism. In giving infants sun baths, judgment must be shown on the very hot days as to length of exposure and the conditions under which it is made, but we believe that the tendency is to provide far too little, rather than too much sunlight, most infants getting through the summer without even acquiring a healthy tan. Stripping an infant for a sun bath and placing him where there is a moderate circulation of air, will so facilitate heat loss that the temperature will not be raised by a moderately hot sun. On the other hand, this heliotherapy is being valued more and more as a prophylactic and therapeutic agent for a variety of conditions common in infancy. It has long been used in the treatment of bone and joint tuberculosis. More recently, however, its intensive utilization in cases of bronchial gland and lung tuberculosis has very materially altered the prognosis which we now give when such early infections are encountered. The non-tuberculous infections of these parts are also benefited by such treatment. Recently Hess and his co-workers have shown that sunlight alone can have a curative effect upon rickets in infants. They have also demonstrated, as did Powers and Park and their co-workers, that proper exposure to the sun's rays will prevent the development of rickets in rats even on a very poor diet. Rickets is a very widespread and serious disease in this part of the country, and yet it is largely preventable. Proper education of mothers as to the value of the sun's rays will go a long way in reducing its incidence. As a therapeutic agent in the treatment of certain skin conditions common in infancy, sunlight is also of known value; and the stimulus which it affords to the sluggish appetite is often surprising. The underlying factor in all these conditions is not well understood, but the effect in all is probably dependent upon a stimulation of general metabolism.

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## Miscellany.

### THE GORGAS MEMORIAL.

At the last annual meeting of the Massachusetts Medical Society, Dr. F. B. Lund spoke of the life, character and achievements of General Gorgas, saying in part:

"Out of gratitude for his work in the Republic of Panama, the President of the Republic, Bellisario Poras, has brought it about that the Republic of Panama has appropriated money and land to build in the City of Panama, at the cross-roads of the world, a building to be called 'The Gorgas Memorial Institute of Tropical and Preventive Medicine.' In that building the great work to which General Gorgas devoted his life and the resources of the United States Army, to study and prevent and cure tropical diseases, is to be carried on. The location of the Institute in Panama is ideal, and it will serve as a base from which expeditions will be sent out. Then there is a large hospital close by, the Santo Tomas Hospital, the clinical facilities of which will be at the disposal of the Institute. It is to be an international affair, and the director of this Institute is our own Dr. Strong, whose work in sanitation in all parts of the world has made us so proud of him. This Institute is going to afford a tremendous opportunity for post-graduate study in tropical diseases and will be available to students from our own Harvard Medical School, as well as to students of all other medical schools in this

country. It is going to require an endowment of six million dollars, and there is going to be a campaign to raise this fund as an endowment, not only from the people of America, but from the people of South American countries, and I don't know whether it will be taken up in Europe or not. This money is going to be spent in a way where it will do more good than can be imagined. It is an unselfish project and its scope is international; the doctors should give all they can, but the whole burden should not be placed on the medical profession, but on the public as well. Physicians should be made acquainted with this great humanitarian enterprise, the biggest conception of its kind that I know of."

Dr. R. P. Strong followed Dr. Lund, saying, in part: "It has been suggested that I supplement Dr. Lund's remarks. This Institute, as Dr. Lund intimated, was regularly incorporated under the laws of Delaware last October; and this action was taken following the formal knowledge of the order of the Government of Panama, made through its President, Dr. Poras, to provide a suitable site and a proper memorial building in Panama. Dr. Poras was a devoted friend and admirer of General Gorgas and he felt that this recognition of General Gorgas' services was particularly appropriate. I have just returned from my fourth visit to the Canal Zone, and I have come back impressed more than ever before with the fact that the Canal and the Canal Zone, as they stand today, constitute one of the greatest monuments to sanitation ever created anywhere in the world. The canal really constitutes a wonderful epochal landmark in the history of human progress. General Gorgas was a man who during his lifetime was famous for his achievements in sanitation and science, and he did more to show the world the importance of medical knowledge in relation to human progress than anyone else. It was particularly due to his labors in Panama and Cuba and South America that American sanitation is today known and its value recognized throughout the civilized world.

"Now, a word about the scope of the organization. It has been decided to establish first divisions of bacteriology, pathology, protozoology, helminthology, biochemistry, entomology, plant pathology and animal diseases; and these departments will be organized with laboratories for research work, particularly in connection with the study of the mode of spread of the most important infectious diseases of man and animals. There will be close coöperation between the Institute and the Ancon Hospital and the Leprosarium. In addition to the above subjects, which are regarded as fundamental components of the work of the Institute, tropical botany and the biological effect of sunlight will also receive attention. Particular attention will also be paid to the study of economic problems in connection with the control of animal and plant diseases. Provision will also be made for the instruction of a limited number of students. The courses of instruction will be designed especially for those who have had laboratory training before. A limited number of qualified research workers will also be received. The privileges of the Institute will be extended and an opportunity made to attract investigators from scientific institutions in different parts of the world to carry on research work, both in the Institute and by expeditions into the neighboring republics of the tropics.

"To summarize briefly—The President of one of the smaller South American republics, a country whose finances are already overtaxed, has made an offer to provide a memorial to an American, to erect a memorial institute or monument which will really be one to American medicine and American sanitation. Now does it not become the duty of the American people to provide a suitable endowment fund with which to carry on the work of this Institute? It seems to me that it is the duty of every one of us to bring about the realization of this project as soon as possible, and, as Dr. Lund said, the burden should not be borne by the medical profession alone, the contributions should be made by the American people, but I think the doctors of Massachusetts, when asked by laymen, should be able to tell the facts about this great enterprise."

## BUSINESS PRINCIPLES APPLIED TO THE MANAGEMENT OF WELFARE AGENCIES BRING INCREASED RETURNS.

The application of modern business principles to welfare agencies, and the increased returns on the funds contributed effected thereby, are described in a report just made public by the U. S. Department of Labor through the Children's Bureau. This report, entitled "Office Administration for Organizations Supervising the Health of Mothers, Infants, and Children of Preschool Age," is the outgrowth of requests for advice which came to the Children's Bureau from organizations in various cities. It embodies the experience of members of the staff whose services were loaned for studies and consultations, and the results of a study of methods used by 200 nursing agencies in both large and small communities. Although the report is directed especially toward the needs of agencies supervising the health of mothers and young children, certain fundamental principles set forth are applicable to the conduct of any office in the social field.

The immediate results of the reorganization of the first agency studied, which affected both the nursing staff and the office force, were: (1) a marked increase in the nurses' time available for field work, due to elimination of duplicate clerical work on their part, and to increased office clerical assistance. (2) An increase of of-

fice output, due to redistribution of duties and orderly rerouting of clerical work. (3) Increased accuracy in handling records and office detail. (4) Elimination of lost motion, with its waste of time, energy, and space, accomplished by standardizing routing duties and rearranging the office equipment. In addition to these immediate results the new system laid the foundation for orderly development and future economical administration of the association's affairs.

"It is indisputable," the report states, "that in the long run modern office management enables a society to do more work and better work than was possible at the same cost in old ways." If high standards of nursing service are to be maintained, strict requirements regarding the education, training, experience, and character of the nurse must be compensated by adequate professional salaries. The skilled nursing staff, moreover, must be supported by a skilled office force, intelligently and adequately equipped and directed.

The report is not intended for the larger organizations alone. It is not unreasonable to suppose, it states, that the waste occurring in the small public health nursing organizations throughout the nation bulks greater than the total waste of the large organizations. The office may be the desk of the one nurse who is executive and staff at one and the same time, but the application of the fundamental principles of management are nevertheless necessary to efficient service.

The report is written with full knowledge of the financial limitations which hamper many struggling societies. "The nonpaying business concern goes out of existence while the public health nursing organization usually struggles on through many lean years doing countless things plainly undesirable from the mere inability to meet expenses." It is of course on account of the limited revenues that scientific management is the more necessary to accomplish the best results with the means at hand.

Among the subjects with which the report deals are: The principles and methods of staff organization; selection and training of employees; office location and arrangement; selection of office furniture, equipment and supplies; planning case record systems; filing; financial administration; and publicity methods. It includes a bibliography, and an appendix giving details of four record systems in use by different types of nursing organizations.

## ECONOMIC LOSS DUE TO POOR VISION.

The Eye Sight Conservation Council of America publishes the following facts:

The value of your eyes—the sense of sight—cannot be expressed in any terms. Next to life itself, is vision, and yet millions have defective eyes. The great majority are unaware of impaired vision and do not know that theirs is less than a full measure of the most valued of the senses. Many others do not understand that a considerable degree of the vision they do enjoy is gained only through nerve exhausting eye strain.

Looking at this condition from a purely economic angle, one is appalled at the resulting waste of effort and the inefficiency of millions who daily contend with the handicap of faulty vision.

Recent studies show some startling results.

In the examination of more than 10,000 employees in factories and commercial houses, 53% were found with uncorrected faulty vision, 13% had defects which were corrected, making a total of 66% with defective eyes.

In one manufacturing establishment over 70% were found with eye defects.

In another plant the following startling condition was discovered:

| | |
|---|---|
| Glasses worn and satisfactory... | 8+% |
| Glasses needed and ordered..... | 83+% |
| No glasses needed..... | 8+% |

As an example of inefficiency and resulting waste, 20% of the inspectors in a large factory were found to be unable to see *sufficiently well* to detect defects in the product they were inspecting. This is an intolerable situation and inexcusable when the remedy is so simple and inexpensive.

There are 42,000,000 gainfully employed in the United States—over 25,000,000 are handicapped by defective vision or eye strain.

## THE EFFECT OF THE NATURE OF THE DIET ON THE DIGESTIBILITY OF BUTTER.

Arthur D. Holmes is the author of a paper published in *Science* for June 22, 1922, and gives his conclusions as follows: It is evident that dairy butter is very completely utilized by the human body. In those diets in which the accessory foods were very nearly if not entirely absorbed by the human body, butter was found to be practically completely digested. When coarser materials, particularly those which provided considerable refuse, were included in the diet it was found that butter was somewhat less completely absorbed by the body. The general conclusion to be drawn from the results of the digestion experiments is that butter eaten in conjunction with ordinary food materials is very completely digested and that for the diets studied, the nature of the diet does not produce a marked difference in the amount of butter absorbed by the human body.

## NEW REGULATIONS TO RESTRICT LIQUOR BLANKS.

New regulations further limiting the use of liquor prescriptions by physicians are said to be in preparation by the Treasury. It is said they will accord with the Willis-Campbell bill prohibiting beer as a medicine and limiting the alcohol which may be prescribed to one-half pint in ten days and the number of prescriptions allowed to a physician to 100 in three months. The Treasury is understood to be considering a change in the definition of a liquor prescription to extend that classification to cover prescriptions issued for medical compounds of which alcohol is an ingredient as well as a prescription for a regular alcoholic liquor.—*Illinois Medical Journal.*

## MEDICAL LITERATURE FOR RUSSIAN PHYSICIANS.

Famished Russian physicians are hungrier for modern medical literature than for bread. Dr. Henry Beeuwkes, chief of the medical division of the American Relief Administration, says that requests for English and American medical journals are constantly pouring into his office, and that these requests are as urgently pressed as the applications for food packages. In fact, in some cases more urgently.

"Any American physician who has files of medical journals for the past three years to dispose of," said Dr. Beeuwkes, "could confer no greater boon upon the medical fraternity of Russia than to turn them over to the American Relief Administration for distribution here. Many of the Russian doctors have not seen a medical journal from the outside world for years."—American Relief Administration.

## FLIES.

IN order to carry weight to the argument that the fly should be eliminated, the housekeeper should be told that the fly is more dangerous than the man-eating tiger. In all probability, the house-fly has caused more deaths than all wild animals. Although the subject of fly extermination has been exploited, people are not yet fully impressed with the important rôle played by the fly as a factor in the production of disease. If our eyes could see the dirt and germs on the feet of the fly we would be more deeply concerned.

ENDORSEMENT OF THE HON. LESTER H. VOLK'S RESOLUTION.—The Philadelphia Association of over seven hundred retail druggists has unanimously endorsed House Resolution No. 258.

## PUBLIC HEALTH LECTURERS FOR THE YEAR 1922.

**The Committee on Public Health of the Massachusetts Medical Society has been able during the past three years to arrange with well known specialists in various medical fields to give talks at meetings of the District Medical Societies on subjects of interest and importance to all practitioners. It is a pleasure to announce that a similar arrangement has been made this year and that the gentlemen named below are willing, without expense to the District Society, to give occasional talks of thirty to forty minutes on subjects relating to the promotion of public health, extending opportunity for questions and discussion. It is suggested that medical societies consider meeting at neighboring public institutions, since such meetings have been most successful in the past, particularly at the tuberculosis sanatoria and state hospitals for the insane.**

**José Penteado Bill, M.D., Doctor of Public Health, Specialty: Preventive Medicine.**

**Frank C. Dunbar, M.D., Bacteriologist, Instructor in Bacteriology and Pathology, Tufts College Medical School.**

**Walter E. Fernald, M.D., Superintendent, Massachusetts School for the Feeble-minded.**

**Timothy Leary, M.D., Professor of Pathology, Tufts College Medical School; Medical Examiner, Suffolk County.**

**Edwin H. Place, M.D., Physician-in-Chief, South Department, Boston City Hospital. Specialty: Contagious Diseases.**

**C. Morton Smith, M.D., Chief of Department of Syphilis, Massachusetts General Hospital.**

**George Gilbert Smith, M.D., Assistant in Department of Genito-Urinary Diseases, Massachusetts General Hospital. Specialty: Genito-Urinary Diseases.**

**Lesley H. Spooner, M.D., on Staff of Out-Patient Department, Massachusetts General Hospital, Specialty: Specific Diagnosis and Treatment of Pneumonia.**

William C. Woodward, M.D., Ex-Health Commissioner, City of Boston.

**George H. Wright, D.M.D., Lecturer on Dental Hygiene, Harvard Dental School. Specialty: Dental Surgery.**

**Thomas F. Kenney, M.D., Director of School Hygiene, City of Worcester. Specialty: Full time School Health Officer.**

**Secretaries of District Medical Societies writing to ask for these lecturers will kindly designate the topic, the place and the hour of meeting as well as the name of the desired speaker, thus eliminating unnecessary correspondence. Please address communications to the Secretary of the Committee, Annie Lee Hamilton, M.D., 164 Longwood Ave., Boston 17.**

[Note: The Committee on Public Health feels that this notice may have escaped attention, for few applications have been received. Each lecturer is an authority and would present his subject in an interesting and instructive manner.]